Modern Hebrew Structure

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PREFACE

This book aims to fill a gap in the field of Hebrew linguistic studies by providing a reference grammar on certain major aspects of the structure of Modern Hebrew – most particularly syntax. While presupposing some familiarity with contemporary linguistic theory and methods of analysis, the present study assumes no prior knowledge of the Hebrew language. As such, it is intended: for a university course in the Structure of Hebrew offered within the curriculum of a general linguistics program; for the Hebrew scholar interested in a more contemporary linguistically-oriented study in his field; and for the general linguist interested in data and descriptions from a non-Indo-European language which, while genetically Semitic, manifests certain quite unique socio-historical properties.

The major portion of this book is concerned with questions of **syntax** – in the sense of the formal principles underlying the organization of sentences in a language. This focus reflects a certain theoretical orientation, deriving from the formalistic nature of Chomskian linguistic theory and its concern with an independent, autonomous level of syntactic description. It also reflects a deliberate attempt to free Hebrew studies from the largely morpho-etymological bias of the past – Hebrew scholars being traditionally concerned first and foremost with the meaning and shape of **words**.

It was as a graduate student in the 1960's that I first saw a piece of my own work in print – and I was most dismayed! Noting this, my then advisor – A.E.G. Pilliner of the University of Edinburgh – assured me that I had started on the road to real research, realizing only once the work was already done how I should, could, might have really set about it. The same is surely true of the present piece of work. Since its inception, there have been many new insights into the nature of linguistic intuitions, some of which are bound to change our notion of what constitutes an adequate linguistic description. Thus, for instance, if I were to begin my study again today, I would take into account the nature of linguistic universals, of language-specific and language-common properties in a far more serious sense than has been attempted here – along the lines suggested in the work of Edward Keenan. I would, nonetheless, like to claim that the generalizations formulated in the present study concerning the nature of syntactic and lexical structuring in Modern Hebrew are independently well-motivated, and would need to be accounted for by any theory of grammar.

One further note of reservation, again a common plight of academia it seems to me. I have already hinted at the lapse in time and knowledge between the inception of the present volume and its completion. To this must be added well over a year between the preparation of the final manuscript and its emergence on the galleys and then between the covers of a book. One result has been the welcome appearance in the interim of two recent publications: an introductory textbook to Hebrew transformational grammar by Chayen and Dror, 1976 (see my review in *Leshonenu* 41,1976,61-70); and an important collection of articles edited by Peter Cole (1976) in the area of Modern Hebrew syntax and semantics – studies which by and large complement the present work excellently both in topic and approach.

Many acknowledgements and thanks are due: to Professor Daniel A. Fineman and Ms. Hana Shlomi of the Tel Aviv University Faculty of Humanities, who made the venture possible both financially and morally; to Professor R.B. Lees, who was kind enough to offer invaluable comments on the entire first draft of this study but who is in no way to be blamed for its shortcomings; to my other friends and colleagues at Tel Aviv University who were ready with an ear, an eye, and an occasional shoulder – particularly Alex Grosu, David Stein, Roberta Stock and Paul Wexler; to the students of the Linguistics Department at Tel Aviv who were my guinea-pigs, my informants, and my helpers all along; to Alex Ingersoll, whose expert and painstaking editing of all facets of the initial draft, the final manuscript, and the galleys have made the contents of this book look and sound so much better than they might have; and finally, to all my family, most especially my husband Itz, who suffered through the growing-pains and birth of this production with unfailing loyalty and understanding.

(i) Background Comments on Transcription

The transcription described below is used for all Hebrew forms cited in the text – for isolated bound morphemes and single words, as well as for longer example phrases and sentences. The same method is used throughout the book, with the exception of Chapter Two (which is specifically concerned with **phonological** properties of Modern Hebrew). The transcription is generally speaking a broad phonetic representation of casual, everyday "General Israeli Hebrew" speech (in the sense in which this term is explained in Chapter One, see particularly fns. 4 and 5), and as such is meant to represent the kind of speech forms that, while not being strictly "correct" by normativist standards, nonetheless manifest more differentiations and fewer reductions than actually occur in the real-life stream of speech (see Blanc 1964 and descriptions of rapid-speech phenomena in Hebrew in Semiloff 1973 and Kupferberg 1976). For instance, we regularly indicate *h* everywhere but in word-final position, whereas Bolozky in Chapter Two regularly deletes word-initial *h* – as do some but by no means all speakers of normal "General Israeli."

The motivation for adopting a broadly **phonetic** transcription was to enable the non-Hebrew speaking reader to articulate Hebrew forms with a reasonable approximation of how they sound in speech. Thus, numerous

morphophonemic relationships and alternations which are still evident in the orthography and which might well be manifested in a more abstract, phonologically-oriented representation of Hebrew strings are deliberately disregarded in our transcription of such strings. A phonologically systematic method of transcription would have involved us in theoretical decisions and technical difficulties which seem unjustified in a work concerned primarily with syntactic issues.

We were also motivated by the practical consideration of wishing to avoid the use of special phonetic symbols wherever possible. This contrasts with the more abstract representations we use for indicating consonantal roots (Section (iii) below) as well as those used in representing underlying forms in Chapter Two. Below we briefly characterize our method of transcribing segmental elements and clusters -- Vowels in Section (ii) and Consonants in Section (iii); Word-Stress in Section (iv); and bound as compared with free morphemes in Section (v).

(ii) Vowels

The following vowels, all fairly close to the cardinal vowels in their phonetic realization, are indicated:

(1)

	FRONT	BACK
HI	*i*	*u*
	e	*o*
LOW	*a*	

A further distinction that is sometimes rendered in our transcription is between orthographic "segol" and "tsere" – X and X respectively: The former is always pronounced as [ɛ], and the latter generally as [e], sometimes as [ɛ]. We represent these two as *e* and *ey*, respectively, as in: *more* 'teacher' compared with *morey* 'teachers-of'.

The non-phonemic schwa, generally resulting from vowel-reduction or inserted to break up a consonant cluster (see Section (iii) below) is rendered by the conventional character ə – even though it is actually pronounced like short *e* or even *i* in most contemporary speech.

Vowel-length, an historically significant feature of Hebrew phonology, is not indicated at all. Thus, the historical short *a* (orthographic "patach" or X) and long *a* (orthographic "kamats" or X) are both rendered by *a* in

our transcription. In contemporary usage, vowels are generally lengthened under stress and shortened under non-stress, especially when they immediately precede or follow the stressed syllable. And vowels are considerably reduced after "weak" consonants such as gutturals or glides (see Sections 2.3.1, 2.3.2, and 3.2). Thus, what is represented as *lahafóx* 'to turn' in our transcription might actually be pronounced as any one of the following: [lahafox], [laafox], [lāhfox], [lāfox], or even straightforward [lafox]; and underlying /ʔeʕené/ 'I will reply' is pronounced as [eʔené], [ēʔne], [eēne], or even [ēne] (on the deletion of low, guttural consonants like *h* and ʔ, see (iii) below and also Section 2.3.1).

Diphthongs are indicated by a combination of Vowel + *y*, as in *alay* 'on me', *racuy* 'desirable', *noy* 'beauty'. Where necessary to show the derivational relationship between two phonetically disparate forms, we may indicate the off-glide *w* as well; thus, *šuwk* = [šuk] 'a market' is related to *šivek* (underlying /šiwek/) 'to market' as is *miyn* = [min] 'type, class' to *miyen* 'classify'.

(iii) Consonants

The following consonant characters are used in our transcription, charted below according to manner and place of articulation.

(2)

STOPS	–vo	p		t		k	
	+vo	b		d		g	
FRICATIVES	–vo		f	s	š	x	h
	+vo		v	z			
AFFRICATES	–vo			c			
	+vo						
SONORANTS	+nas		m	n			
	–nas			l		r	y

The extent to which these 19 symbols represent a neutralization of historical distinctions often still relevant at a deeper, more abstract level of phonological patterning is shown by comparing them with the traditional orthographic symbols of the 22-letter consonantal alphabet of Hebrew as still used today.

(3)

	Letter	Name	Underlying Form	Transcribed Form
1.	א	*alef*	ʔ	∅
2.	ב	*bet*	b	b
	ב	*vet*	b̄	v
3.	ג	*gimel*	g	g
4.	ד	*daled*	d	d
5.	ה	*he*	h	h
6.	ו	*vav*	w	v
7.	ז	*zayin*	z	z
8.	ח	*xet*	ħ	x
9.	ט	*tet*	ṭ	t
10.	י	*yod*	y	y
11.	כ	*kaf*	k	k
	כ	*xaf*	k̄	x
12.	ל	*lamed*	l	l
13.	מ	*mem*	m	m
14.	נ	*nun*	n	n
15.	ס	*samex*	s	s
16.	ע	*ayin*	ʕ	∅
17.	פ	*pe*	p	p
	פ	*fe*	p̄	f
18.	צ	*cade*	c	c
19.	ק	*kof*	q	k
20.	ר	*reš*	r	r
21.	ש	*šin*	š	š
	ש	*sin*	ṣ	s
22.	ת	*tav*	θ̣	t

The most critical "collapsing" involved by our surface-type transcription are the following:

(4)
1. the fricative version of the stop *b* (see Section 2.2.7) and the glide *w* } = *v*
2. the fricative version of the stop *k* and the guttural ħ (see 2.3.1) } = *x*
3. the velar stop *k* and the emphatic uvular *q* (see 2.0) } = *k*
4. the glottal stop ʔ and the pharyngeal ʕ (see 2.3.1) } = ∅ in all environments

In this respect as in others, the transcription used in Chapter Two differs in detail from the one adopted in the rest of the book. In Chapter Two, both ʔ and ʕ are generally rendered by ʔ – as explained in 2.3.1.

According to the collapsing in (4-1), *ləvater* in our transcription could stand for the infinitive form of the verb underlying both the nominal *vitur* 'renunciation' from the root w–t–r and the nominal *bitur* 'splitting' from the root b–t–r. According to the collapsing in (4-2), (4-3), and (4-4), the form *kara* in our transcription could stand for the past-tense masculine singular 3rd person of any of the following.

(5)

ROOT	INFINITIVE	NOMINAL
a. q–r–ʔ	*likró* 'to read'	*mikra* 'readings'
b. q–r–ʕ	*likróa* 'to tear'	
c. q–r–y†	*likrot* 'to happen'	*mikre* 'happening'
d. k–r–y†	*lixrot* 'to dig'	*mixre* 'a mine'
e. k–r–ʕ	*lixróa* 'to kneel'	

†Note: The final root-consonant *y* is the phonological counterpart of orthographic *h* in root-final position. Note that *h* is nearly always pronounced as zero in word-final position in all dialects.

The forms in the two columns to the right in (5) stand for the normal, non-rapid, but not necessarily puristic, pronunciations of the words as glossed – and they are transcribed as listed above in our text.

The forms on the left in (5) stand for the root consonants of the verbs in question. Throughout the text, we follow the practice of indicating the more abstract, underlying segment in the form of the root (e.g., "the recent coinage *šivek* 'to market' from the root š–w–q represents the class of denominative verbs in Hebrew" or "the fact that *mikre* '(an) occurrence' but not **kriya* 'occurring' is used as a nominal version of the root q–r–y 'occur, happen' must be taken to constitute an accidental gap in the Hebrew lexicon"). That is, we indicate the more abstract forms of triconsonantal roots as C–C–C where this seems to us necessary or instructive. Note, however, that for convenience sake we render the glottal *alef* by a question-mark and the pharyngeal *ayin* by a single initial quote. Thus, the roots in (5-a) and (5-b) will be rendered as q–r–? and as q–r–', respectively, in the text which follows (except in Chapter Two where conventional phonetic symbols are used as befits the topic treated there).

Perhaps the most serious consequence of our choice of transcription is the non-indication of both *alef* and *ayin* in medial as well as in initial

and in final positions. (This decision was made for typographic considerations and does not represent any substantive claim on our part with respect to Modern Hebrew phonology.) This collapsing involves a large group of homophones which today are differentiated orthographically and etymologically, but not phonetically. For example:

(6)	a. Word-Initial	*alef*	*ayin*
	arim	'I will raise'	'cities'
	ed	'steam'	'witness'
	or	'light'	'skin'
	b. Word-Final		
	kara	'(he) read'	'(he) tore'
	nasa	'(he) carried'	'(he) travelled'
	huca	'(is) removed'	'(is) proposed'

(In fact, as the examples in (6-b) indicate, this homophony arises only where the low vowel *a* immediately precedes the root-final *ayin* or *alef*. In other cases, an epenthetical *a* is inserted before word-final *ayin*, distinguishing the surface form of the word from its *alef*-final counterpart. However, in such cases, the deletion of both word-final *h* and word-final *alef* might lead to further homophony.)

In the case of medial forms, the claim entailed by our transcription is that all the words in each row below are homophonous – although normativists would claim that there is a distinct glottal stop pronounced where the underlying form, as represented by the orthography, manifests either an *alef* or an *ayin* – particularly in pretonic position.

(7)	Transcription		Underlying Form	
		...CV̌...	...C?V́...	...CʕV́...
(i)	*korim*	/korim/ 'miners'	/kor?im/ 'read(Pl)'	/korʕim/ 'tear(Pl)'
	šiva	/šiva/ 'returning'	- - -	/šivʕa/ 'seven'
	kina	/kina/ 'lament'	/kin?a/ 'envy'	- - -
	nasa	/nasa/ 'he carried'	/nas?a/ 'she carried'	/nasʕa/ 'she traveled'

	našir	/našir/ 'we'll sing'	/naš?ir/ 'we'll leave'	- - -
	nigal	/nigal/ 'was bloodied'	/nig?al/ 'was saved'	/nigʕal/ 'was disgusted'
(ii)			...V?V...	...VʕV...
	needar		/ne?edar/ 'be beautified'	/neʕedar/ 'be missing'
	taam		/ta?am/ 'suited'	/taʕam/ 'tasted'
	haaraxa		/ha?araxa/ 'prolonging'	/haʕaraxa/ 'evaluation'
	roe		/ro?e/ 'sees'	/roʕe/ 'herds'
	hoil		/ho?il/ 'was kind'	/hoʕil/ 'was useful'

It seems to us that the lack of phonetic distinctions in our transcription of words like those in (7-i) accords perfectly with the facts of normal, casual pronunciation. Forms like those in (7-ii) look misleading because they imply vowel gemination in the first three cases – where, in fact, the identical vowel on both sides of the *alef* or *ayin* is simply lengthened and pronounced as a single vowel; while with respect to forms like *roe* and *hoil* in (7-ii), it must be noted that there is some phonetic separation in transition from one vowel to the next, and they do not form off-glided diphthongs.

With respect to **consonant clusters**, note that word-finally these are disallowed in native Hebrew words except before the 2nd person feminine singular past tense suffix *-t* as in *halaxt* 'you went', *parast* 'you spread', *silakt* 'you threw away', etc. Word-medially, any sequence of three consonants (due to vowel deletion in the presence of a stressed suffix) will generally have an intrusive schwa between the second two consonants, and is rendered as such in our transcription; thus: *nigmar* 'he was finished'/*nigmərú* 'they were finished'; *tistom* 'she will check'/*tistəmí* 'you(Fem) will check'. In word-initial position, the situation is more complicated (theoretically, here, too, all clusters must be broken up by schwa), and we have not tried to conform to any consistent phonological principle. Rather, we have indicated consonant clusters where these seem to be typical of the form of pronunciation taken as a model for our study, e.g.,

prixa 'blossoming', *stam* 'random', *knasot* 'fines', *dli* 'pail', *bsora* 'news', etc., and have introduced the schwa where it seemed more typical of the pronunciation of this dialect, particularly where the two consonantal segments are homotopic, homorganic, or sonorants, e.g., *tədirut* 'frequency', *yəladim* 'children', *nəmašim* 'freckles', etc.

(iv) **Word-Stress**

All words are assumed to have word-final stress, unless otherwise indicated by an accent aigu over the relevant vowel. In general, native words are always stressed on the last syllable, with a few morphophonologically motivated exceptions, where stress is penultimate. The latter classes include: segolate nouns like *yéled* 'child', *pétax* 'opening', *kótel* 'wall' (see Section 2.4.1), and words with certain grammatical affixes, such as feminine unstressed *-et* in verbs like *holéxet* 'goes', *šoméret* 'guards' or nouns like *gvéret* 'lady' *maxbéret* 'notebook', etc., as well as verbs with the 1st person past tense suffixes *-ti* and *-nu* as in *haláxti* 'I went', *šamárti* 'I guarded', *dibárti* 'I spoke' and *dibárnu* 'we spoke'.

(v) **Indication of Morpheme and Word Boundaries**

Where a given form constitutes a single word in Hebrew – often due to the presence of "portmanteau" type morphemes – but may be rendered by several words in English, this is indicated where relevant by the use of hyphens in the gloss; thus:

(8)

yišmor	'he-will-guard'	*hayəladim*	'the children'
navin	'we-will-understand'	*layəladim*	'to-the-children'
rəítiv	'I-saw-him'	*baemca*	'in-the-middle'
kibalnúhu	'we-received-it'		

There are several important grammatical formatives which constitute separate words in English but are enclitically attached to the following word as prefixes in Hebrew. Chief among these are: the definite marker *ha-* 'the', the coordinating conjunction *və-* or *u-* 'and', and the relativizing or subordinating conjunction *še-* 'that'. In representing these forms sometimes as attached to the word which follows and sometimes as separate words, we have been guided by considerations of clarity of presentation rather than of theoretical validity or consistency.

(vi) General Comments on Notation

In all cases of non-Hebrew notation, conventional linguistic practices are followed without further explanation (e.g., square brackets for phonetic transcriptions, single quotes for glosses). Where the notation may be obscure or is used in a special way, it is explained as it appears in the text. While we have tried to maintain complete consistency in notation, there is some variation, particularly between Bolozky's Chapter Two and the rest of the book. For example, features (phonological, syntactic, or lexical) are generally shown in brackets in upper-case letters, but in some parts of the book they may appear in lower-case, and Gender, Number, etc. may be indicated in parentheses. Such variation results from the authors' individual preferences and/or typesetting considerations and does not entail any theoretical implications.

1 INTRODUCTION

1.1 BACKGROUND AND MOTIVATIONS

The description and analysis of Modern Hebrew provide a topic of interest for reasons not exclusively due to the internal structure or intra-linguistic properties of the language. One such reason relates to the peculiar circumstances of the revival of Hebrew as a living, spoken language over the past one hundred years or so.[1] As far as I know, Modern Hebrew affords the only instance of a language which, having been "dead" for over a thousand years ("dead" in the sense that it did not constitute the native tongue of children growing up in a given speech community), was subsequently revived to acquire all the attributes of any natural, living language. And although the revival itself was initiated in an artificial manner – primarily due to the resurgence of Jewish nationalism[2] – today Modern Hebrew can and does perform all the functions and manifest all the properties of the native language of an ever-growing speech community within given geo-political boundaries.[3]

Moreover, despite the special nature of its rebirth and growth, there is such a thing as "native Hebrew" – and it is clearly identifiable as such, phonologically in particular. Thus, it is nearly always possible to tell the native-born Israeli from someone who started speaking Hebrew in adolescence or later. Any layman can identify the Hebrew accent of a native speaker, though it may be spoken by people who reside in different parts of the country and whose parents spoke different languages at home. How exactly this accent emerged alike among youngsters growing up in homes where the "mother tongue" may have been Hungarian, German, Yiddish, Polish, Russian, French, or English, etc. nobody really knows. But today it characterizes the speech-forms of adults in their forties and fifties as well

as of schoolchildren – irrespective of whether their families settled in Israel a hundred, or fifty, or – in the case of young children – fifteen years ago.[4]

The language this book is concerned with, then, is native Hebrew, as spoken – and written – by residents of the State of Israel who were born in the country or who settled here before the age of ten or so. The dialect described in the following chapters is, basically, the one for which Blanc coined the term "General Israeli Hebrew".[5] Our analysis will devolve mainly upon the colloquial usage of Israeli high school graduates, with heavy reliance on local university students – both linguistics majors and those with no specialized knowledge of Hebrew language or linguistics – as informants. Note, however, that Modern Hebrew provides a quite unique testing-ground for processes of language change which have been accelerated and concentrated beyond what one would normally expect to find. This is due to the combined factors of Modern Hebrew's having evolved within an immigrant society, with a consequent intensification of "languages in contact" situations to which Hebrew speakers are exposed, on the one hand, and to the rapid adaptation of a recently purely literary and liturgical language to the exigencies of contemporary spoken usage (relating to the special circumstances of the "revival" of Hebrew noted earlier), on the other. Consequently, while our study accords special attention to casual everyday usage, we will also constantly note how this deviates from the requirements of more formal style as well as of conservative normativism.

This brings us to another extra-linguistic factor motivating a work of the kind undertaken here: the puristic, normative tradition characteristic of much of Hebrew scholarship and the powerful impact of the usage-correctness controversy still raging strongly in Israeli scholarship and public life alike.[6] The reasons for the puristic outlook are manifold, and they are bound up with the special history of Modern Hebrew noted above. Thus, there seems to be a special reverence accorded by "the people of the Book" to the written word; to this day the Bible and the rabbinical commentaries are not only the fountainheads of Israel's religious, historical, and literary heritage, they are the sources of its linguistic authoritarianism par excellence. Until quite recently, few of the leading figures in Israel's political and public life were native speakers of Hebrew, and it is only in the past decade or two that native speakers have become teachers of Hebrew language and literature in the schools and universities. Thus the "norms" have quite generally been set by people who tended to rely heavily on the literary sources of the language.

All this has had rather far-reaching consequences for the study of Modern Hebrew. Firstly, it explains the highly prescriptive approach to the teaching of Hebrew in the Israeli school system. Hebrew textbooks currently in use typically illustrate rules by excerpts from Biblical and Mishnaic Hebrew, "modern" usage being illustrated – if at all – by the literary language of several decades past. School Hebrew lessons are devoted in large part to two major areas, neither of which gives scholarly weight to the language actually used by the students: i) the intricate system of *nikud* '(vowel) pointing', in the form of the Tiberian vocalization system added to the consonantal alphabet approximately a thousand years ago – a system which bears a very indirect relation to the contemporary pronunciation of Hebrew; and ii) the area of *šibušey lašon* 'language abuses' in the sense of solecisms drilled into students preparing for their school-leaving examinations with little heed as to how they themselves actually speak – except as a model for what is "wrong".[7]

All this has had what seems to us an unfortunate effect on the attitudes of native Israelis to their language and their own usage thereof; while keeping the usage-correctness controversey noted earlier very much in the forefront of interest among educated speakers, it has created an atmosphere where Hebrew-users tend to be irrationally puristic or to feel quite insecure with respect to their own usage.[8]

Such attitudes have had an effect on Modern Hebrew scholarship, too, and this is probably the major motivation for the writing of this book. University departments of Hebrew Language tend to focus on historical and philologically-oriented studies, with the characterization of Modern Hebrew being left to a relatively small number of scholars – some of whom may themselves be puristically inclined or more comfortable with the authority of the written language to back up their studies. In general, the exciting insights and issues of contemporary linguistic theory have had relatively little impact on the study of contemporary Hebrew,[9] and entire segments of the structure of Modern Hebrew remain lacking descriptive accounts – even on the level of what Chomsky (1965, 24-26, 33-38) has termed "descriptive" rather than "explanatory adequacy".[10] It is hoped that the contents of the present volume will be of help in filling this lack with respect to the topics which it includes; other important topics **not** dealt with in the following chapters are noted in Section 12.2, in our concluding statements.

Such, then, are the background and motivations to the writing of this book – the contents of which evolved in part from research done in connection with my doctoral dissertation (Berman 1973), in part from

teaching undergraduate and graduate-level courses in linguistics to (generally native) Hebrew-speakers at Tel Aviv University, and in part from the requirements of a pedagogically-oriented contrastive analysis of English and Hebrew for the purposes of teaching English to Israelis (Aronson *et al.*, 1968-1971).

1.2 DESCRIPTIVE FRAMEWORK

A work like this book entails certain obvious constraints. Those of our limitations which were deliberate fall into two main categories. Firstly, in terms of theoretical frame of reference, the chapters dealing with syntactic topics (that is, the bulk of the book) remain by and large within the bounds of what has come to be called the "standard theory" of transformational-generative grammar.[11] This means that our syntactic analyses are conducted largely independently of semantic considerations, and that we avoid coming to grips with the very interesting issues raised by a "generative semantics" view of linguistic description,[12] and we take relatively little advantage of the insights gained from more semantically- and pragmatically-oriented contemporary studies of linguistic phenomena.[13]

Some points at which our analyses do, however, diverge from the "classical" standard or Chomskian model are in our incorporation of the more semantically motivated notions of sentence-constituents formulated in recent theories of "case grammar" (e.g., Fillmore 1966, 1968a, 1971) in preference to the syntactically motivated distinction between deep and surface subjects and objects, etc., and in a less strictly lexicalist view of the relation between verbs and their associated nominals – as noted, for instance, in references to the distinction between a (Chomskian) lexicalist compared with a transformationalist view of these relations cited in Chapter Eight, fn. 2. In the latter connection, see particularly Chapters Ten and Eleven. Throughout our work, we also attempt to take account of psycholinguistic factors – such as how the native speaker might perceive relations between various items in the lexicon, what he would consider to be the most unmarked version of a given construction in stylistic terms, and his awareness of possible distinctions in meaning. These are factors which a strictly "standard theory" view of the dichotemy between competence and performance (as articulated, for instance, in Chomsky 1965, 8-15) would consider to lie outside the realm of linguistic description.

Our largely "independent syntax" orientation seems not only justified, but necessary with respect to a language like Modern Hebrew which, as noted, suffers from a great paucity of descriptive data at any

level of theoretical adequacy, most particularly with respect to its syntactic structure. Besides, it seems to us that many of the most important insights revealed in works like those cited above may indeed be universal – and hence apply to Hebrew as to any other language. Where this seems to be the case in our own work on Hebrew, we note it – in an attempt to deliberately concentrate on language-specific rather than on language-general phenomena. On the other hand, an important aim of the present volume is that it provides a source for cross-linguistic data from Hebrew – against which theoretical linguists can and should judge the universality of their claims.[14] To cite two such examples: The type of analysis proposed by Langacker and Munro (1975) for the underlying representation of passive sentences in Mojave and in Uto-Aztecan receives great support from the widespread use of impersonal constructions in Modern Hebrew – where corresponding passives are morphologically just as available to speakers. Secondly, the distribution of the dative marker in French (based on Kupferman 1976, 110-140) and in Hebrew suggests that the interrelation between a certain kind of "pseudo-reflexive" construction and datives may be more than an idiosyncratic fact of Hebrew, while data from Hebrew also suggest that the requirement of reflexivization of co-referential NP's within a single simplex S needs to be reconsidered.[15]

A second limitation concerns the scope of this study. Chapter Two (contributed by Dr. S. Bolozky) is the only one devoted to questions of Hebrew phonology, its discussion obviously being confined to a number of selected aspects of the phonological structure of the language. Similarly, Chapter Three alone deals specifically with matters of morphology – to which it provides a fairly cursory overview – although in Chapter Three and again in Chapter Eleven, some brief consideration is also accorded the special nature of the lexicon and of lexical entries in Hebrew, a language with a largely root-based vocabulary.

The bulk of this book is concerned with questions of Hebrew syntactic structure, but even in the area of syntax we have not aimed to provide an inclusive treatment. Rather, we have chosen a few specific topics in Hebrew syntax which seem particularly worth investigating. These include, with respect to predicate structure: case relations and different kinds of object NP's (Chapter Four), the system of tense in Modern Hebrew and the special nature of its participial forms (Chapter Five), and copula constructions (Chapter Six); and with respect to nominal constructions: genitives and various kinds of noun compounds, gerunds, derived abstract nominals, and various other nouns with verbal roots (Chapters Seven through Eleven). In some cases, we provide no more than

a survey of the relevant data – in an attempt to ascertain the facts of a certain construction. In others, we consider different analyses of a given construction without providing any clear solution to the problem it poses. In general, the claims made in this work are not viewed by us as either total or final. Rather, it is hoped that this book will stimulate others to further investigation both of these and other areas of Hebrew structure – along the lines suggested in the concluding chapter, Section 12.2.

Note, finally, that this study is basically synchronic in nature. Here and there, where it seems particularly pertinent, we note certain historical developments in terms of three broad stages in the evolution of Hebrew: Classical or Biblical Hebrew (c. 1200 B.C. – c. 300 B.C.); Mishnaic or Rabbinic Hebrew (c. 300 B.C. – c. 600 A.D.); and Modern Hebrew (from the late 19th Century).[16] In doing so, we attempt to demonstrate yet another rather unique aspect of the nature of Modern Hebrew: the fact that it has culled its usages, syntactic as well as lexical, simultaneously from all the various earlier stages of the development of Hebrew. In this, contemporary Hebrew differs in its historical evolution from other languages, each stage of which tends to represent a direct outgrowth of the immediately preceding stage in their diachronic development. The language considered in this work, however, manifests forms and usages taken over and absorbed concurrently from various periods in its prior history.

NOTES

[1] The revival of Hebrew is in itself a fascinating subject of study which has been accorded considerable attention by both scholars and laymen. For studies which are linguistic rather than purely sociological or historical in orientation, see in English: Bar-Adon 1965, 1975; Blanc 1957, 1964b, 1968; W. Chomsky 1950, 1957; Fellman 1971, 1973; Morag 1959; Rabin 1958, 1969, 1970, 1971; Tenc 1969; Tur-Sinai 1960; Weiman 1950; Yellin 1923; and in Hebrew: Avinery 1964; Z. Epstein 1908; Hebrew Language Academy 1970; Klausner 1949, 1957; and *Sfateynu* 1923. For pertinent statistics see Bachi 1956.

[2] The modern movement of Zionism, as a return to Zion, evolving in Europe in the 19th century, provided the impetus for scholars and writers to abandon local national languages as well as the Jewish lingua franca of Yiddish in favour of Hebrew. A growing insistence on the use of Hebrew in speech as well as in writing developed among the early Zionist settlers in Palestine of the late 19th and early 20th centuries under the influence of such nationalist Hebaists as Eliezer Ben-Yehuda (1858-1922) – compiler of the first great modern Hebrew dictionary.

[3] This "community" refers to residents of the State of Israel, established by UN Charter in 1948, and to their precursors – Jews who settled in Palestine from the late 19th century on, and who by 1948 numbered the approximately 600,000 Jewish members of the so-called "yishuv" or (Jewish) settlement in pre-state Palestine. The word "growing" refers to the constant increase in the number of Israelis for whom Hebrew is a native tongue.

[4] This generalization is not entirely correct. Youngsters of Arabic-speaking backgrounds – even if themselves born in Israel – generally retain a pharyngealized "ayin" and "chet" (discussed in Section 2.3.1 below), which distinguish their speech from that of native Israelis of European or other language-backgrounds who speak "General Israeli Hebrew" (see fn. 5 below). The latter make no phonetic distinction between pharyngeal "ayin" and the glottal stop "alef" or between pharyngeal "chet" and the voiceless velar fricative [x]. Moreover, some children of Middle-Eastern non-Israeli backgrounds use the more normative alveo-dental trilled [r] as against the more common velar trill or fricative, uvular version, and so on. Note, too, that the term "native speakers" includes many who first acquired the native tongue – sometimes tongues – of their parents or grandparents, and then only began acquiring Hebrew, usually on entering nursery school at the age of three or four.

[5] The term "General Israeli Hebrew" is used by Blanc (1956, 1961) to refer to the speech patterns of native Israelis of so-called "Ashkenazi" or European extraction (including those whose parents, grandparents, or greatgrandparents had in turn immigrated from Europe or America, Australia or Southern Africa) as distinct from those of Arabic-speaking and other "Sefardi" backgrounds. (The term "Ashkenazi" is based on the old Hebrew word for 'Germany', while "Sefardi" means literally from *sfarad* 'Spain'.) In the former, Yiddish was generally the Jewish lingua franca; in the latter Arabic or Judeo-Spanish (Ladino).

[6] Thus, as early as 1890 the Jews in Palestine established *vaad halašon* 'the Language Committee' – precursor of the Hebrew Language Academy which officially replaced it by act of the Government of Israel in 1953 (see Hebrew Language Academy, 1970). An important role of these bodies has been and remains to "keep watch over" the development of Hebrew, and to specify norms of usage in punctuation, syntax, and other aspects of written style – paying particular attention to lexical coinages, on the one hand, and to deviations from normative forms of pronunciation, on the other. That public interest in such questions is still manifest was shown in the spring of 1976, in a much publicized debate in the Knesset (Israeli Parliament), where abhorrence of general usage of the language of the House was expressed. One of the best-attended sessions of the Third Annual Conference of the Israel Association for Applied Linguistics, held in Tel Aviv in the summer of 1976, was devoted to a lively discussion of just this topic – Hebrew usage and abusage in translation, in the schools, and in the media; and concurrently, a popular television program interviewed several well-known figures about "the state of our language." The public sway of the purists is manifested in weekly columns in the daily press, in which Hebrew scholars explain to readers why the way they talk is unacceptable, and also in a daily radio program (broadcast three times a day!) called "A Moment of Hebrew" -- where listeners are warned against certain lexical, grammatical, and phonetic usages (more often than not, a very accurate reflection of how most

listeners themselves happen to speak). A most interesting document in this connection is the textbook of norms for radio and television personnel (Bendavid and Shay 1974).

[7] Examples of such solecisms include:

i) In morphology: The plural form *klayot* 'kidneys' has the singular form *kilya* – along the pattern of CiCCa ~ CCaCot, as in *simla-smalot* 'dress(es)' or *šixva-šxavot* 'layer(s)'. However, most people – including the more educated sections of the adult population – say **klaya* for 'kidney', no doubt following the regular pattern of alternation of feminine singular/plural endings as simply *–a/–ot* (hence: **klaya/klayot*) because the word 'kidneys' is generally used in the plural. This is, of course, "wrong."

ii) In pronunciation: In everyday usage, Israelis pronounce two non-homotopic and non-homorganic word-initial consonants as a cluster – though radio and other highly normative usage still requires that the earlier, phonologically attested neutral vowel "schwa" be inserted; thus compare: normal *pliša*/required *pəliša* 'invasion', normal *tšuva*, pronounced [čuva]/required *təšuva* 'answer', *smalim*/*səmalim* 'symbols', etc. Similarly, the normative requirement is that where the second consonant in such a cluster is itself followed by "schwa" (or by zero, forming a triconsonantal cluster – impossible in any style of Hebrew speech), then the initial "schwa" be raised to [i]; compare: normal *bəmdina zo*/required *bimdina zo* 'in-state this = in this state', *ləcfat*/required *licfat* 'to-Safed', etc.

iii) In syntax: The subordinator *še-* 'that' quite generally attaches to prepositions to form (sentence subordinating) conjunctions, e.g., *lifney* (Prep)/*lifney še-* (Conj) 'before', *ad* (Prep)/*ad še* (Conj) 'until', *lamrot* 'despite, in-spite-of'/*lamrot še-* 'in-spite-of that = although' – though the latter is frowned upon by purists. So is the extension of the preposition *biglal* 'because-of, due-to' in the form of the exceedingly common *biglal še-* (Conj) 'because' – along exactly the same lines as the "approved," synonymous *mipney še-*, *mišum še-*. A related "solecism" also involving the very general use today of *še-* as the marker of subordination par excellence is found in such forms as *matay še-* 'when (Question Word) that' as a conjunction in the sense of "whenever" instead of the approved *kol paam še-* 'each time that' or simply *kaašer* 'when (Conj)', and similarly *efo še-* 'where that' both in the sense of "wherever" and in the sense of the English relative pronoun "where."

iv) In the lexicon: Purists frown upon the use of loan-words with non-native roots – and even upon the use of native roots in a "borrowed" sense, e.g., the noun *gibuy* is formed from the native word *gav* 'back (body-part)' – but the former is not acceptable when used in its contemporary sense of 'backing' or 'support'.

For examples of works guiding students as to what is "right" and what is "wrong," see Bahat and Ron 1960, Peretz 1965, and Sivan 1974.

[8] This "insecurity" of native speakers has often been brought home to me when I have tried to use university students (majoring in linguistics) as informants on points of usage which interest me. These students will feel free to shed the shackles of "correctness" in analyzing given aspects of, say, English, Rumanian, or Turkish. Yet a typical reaction to a given usage in their own language might be either quite general disagreement as to whether a certain construction is possible or not, or a comment such as: "Well, I have heard it said that way, but it is not right," or even, "Perhaps I say so when I'm not thinking, but it is not really Hebrew." Similarly, in

teaching advanced level courses in phonology, one finds students with considerable background in contemporary issues in phonological theory who seem to have difficulty in distinguishing between sound and letter when discussing Modern Hebrew structure. And truly naive informants are rare, for there are virtually no illiterates among native speakers of Hebrew.

[9] The work of some younger Israeli linguists represents a departure from this trend, but their dissertations were generally published abroad. See, for example, Ariel 1969, Barkai 1972, Bolozky 1972a, Hayon 1969, Malisdorf 1975, Schwarzwald 1973a. It is very much hoped that the introductory text recently published in Hebrew (Chayen and Dror 1976) will stimulate interest in and provide greater familiarity with contemporary grammatical description among Hebrew speakers and scholars alike.

[10] Thus, for instance, when asked by students to provide references to descriptive studies on contemporary Hebrew, we are hard put to it to find suitably documented data – even with respect to quite traditional grammatical topics such as: word-order, passivization, impersonal constructions, negation, the use of participles and gerunds, reflexive pronouns, adjective-modifiers, manner adverbials, etc. Exceptions to this general lack of descriptive data are found, *inter alia*, in the work on Modern Hebrew syntax of Ben-Asher 1972b; Ben-Hayyim 1953, 1956; Ornan 1964; 1968a, 1968b, 1972; Rosen 1956, 1962, 1966; Rubenstein 1968, 1971; as well as in the collections of Ornan and Fischler 1975 and of Nir and Fischler 1976, and in articles in journals such as the Hebrew Language Academy's *Leshonenu* 'Our Language' and *Leshonenu La'am* 'Our Language for the People'. But even such works often suffer from a lack of appropriate theoretical basis – some being mainly taxonomic in method and purpose, others being either impressionistically vague and general or still bound to the dictates of history, on the one hand, and of normativism, on the other.

[11] By "standard theory" is meant the model of grammar presented in some detail in Chomsky 1965 – in part on the basis of Katz and Postal 1964 – and developed and further motivated in later works by Chomsky (1969, 1970, 1972). According to this view, a grammar is conceived as a tripartite structure, composed of syntax, semantics, and phonology. Syntax is held to be the central, generative component of the grammar, embodying the productive or "creative" aspect of natural languages and providing the connection between the two interpretive components: semantics and phonology. These latter two serve to interpret and represent the meanings and pronunciations respectively of the abstract structures derived by the rules of the syntactic component. It is thus the rules of syntax – phrase-structure rules of formation which generate the deep or underlying structures combined with transformational rules for deriving the surface structures – which fulfil the classic function of linguistic analysis: to relate sound to meaning. For a brief, very clear statement of some of the issues left unsolved in this theory of grammar, see Partee 1974.

[12] As its name implies, a "generative semantics" model of a grammar views the semantic component as the basic, generative element in linguistic description – in the sense that syntactic patterning derives from and devolves upon the meanings expressed by sentences. Accordingly, there is no longer any need for a strict separation between the semantic and syntactic components. See, for instance,

Lakoff 1965, 1971a,c; McCawley 1968, 1971; Postal 1970a, 1971; and Ross 1967.

[13] We refer to such notions as "functional perspective" (as in Kuno 1972), "presuppositions" (Kartunnen 1974, Katz and Langendoen 1976, Lakoff 1971b, Morgan 1969), or semantic classes of verb-types (Kartunnen 1971, Kiparsky and Kiparsky 1970). For psycholinguistically-oriented studies, see Grosu 1973a,b, 1975a.

[14] This kind of contrastive analysis is done very effectively, for instance, through the use of Japanese in Akmajian and Kitagawa 1976, or in the cross-linguistic studies of, say, Schwartz 1971, Grosu and Thompson 1976, and Li and Thompson 1976.

[15] Consider, for instance, the surface similarity between the dative in (i) and the benefactive and/or "pseudo-reflexive" interpretations of (ii), on the one hand, and the distinction between the "pseudo-reflexive" interpretation of (ii-b), and the "true" reflexive of (iii) below:

(i) hi natna la simla
she gave to her dress
'she gave her a dress' (*hi* and *la* are non-coreferential)

(ii) hi tafra la simla
she sewed to her dress
a. 'she sewed her [non-coreferential] a dress'
b. 'she had a dress sewn (for herself)'

(iii) hi tafra lǝacma simla
she sewed to herself dress
'she sewed herself a dress'

I am grateful to Zafrira Ben-David (personal communication) for the above observations.

[16] This division into periods refers mainly to Hebrew as a spoken language. The written tradition of Hebrew would include a fourth period – the Medieval – between the Mishnaic and the Modern, while the latter can then be taken as starting as early as the 18th century, under the influence of the Hebraist trend of followers of the "Haskalah" Enlightenment movement in Europe.

2 SOME ASPECTS OF MODERN HEBREW PHONOLOGY

by Shmuel Bolozky

2.0 INTRODUCTION

A salient feature of the segmental system of Modern Hebrew is the loss of certain properties of Biblical Hebrew originally characteristic of Semitic phonological systems in general.[1] Evidence for this situation is available from a comparison of the sound system of the dialect under consideration here (roughly speaking, "General Israeli Hebrew" in the sense of Blanc 1964b)[2] with that of other Semitic languages such as Classical Arabic,[3] other extant dialects of spoken Hebrew (e.g., the "Ashkenazi" pronunciation of liturgical usage stemming from Central and Eastern Europe, or the speech of Jews of Yemenite extraction), and the traditional system of orthography – 22 consonant letters, *nikud* vowel-pointing and other diacritics – in use for all forms of Hebrew to this day.

The major effect of this lack of certain Semitic properties in Modern Hebrew has been a loss of phonetic distinctions manifested at earlier stages of the language. This can be illustrated with respect to two sets of consonants typical of languages of the Semitic family: i) the pharyngeals and ii) the emphatics. In the first group, the voiceless pharyngeal fricative /ħ/ is typically pronounced exactly like its velar counterpart [x], while the voiced pharyngeal fricative /ʕ/ *ayin* has coalesced with the glottal stop /ʔ/ *alef* and is most generally deleted, just as are original glottal stops.[4] While these neutralizations do not apply in all contemporary usage (the

distinctive pharyngeal quality of the *xet* and the *ayin* being quite generally retained in the speech of native Israelis of Arabic-speaking extraction, for instance), the second group noted above – the so-called "emphatic" consonants /s̤/, /t̤/, and /q/ – no longer occur in any native Hebrew speech. Thus, the sounds represented by the letters *cadi*, *ṭet*, and *kof*, respectively, are today pronounced as the dental affricate [c], the dental stop [t], and the velar stop [k], respectively.

These, however, are not the only instances of loss of distinctions in the consonantal system. The class of low consonants traditionally termed *groniyot* 'gutturals' (from *garon* 'throat') – see Section 2.3.1 below – includes, in addition to the two pharyngeals and the glottal stop mentioned above, the glottal fricative /h/. As is noted below in greater detail, this consonant, too, is quite generally deleted in contemporary usage, or it may alternatively coalesce with /ʔ/ and delete in cases where original /ʔ/ does so. Consequently, the speech of some (particularly younger) Israelis retains no phonetic trace of any of the four original "guttural" consonants: /ẖ/ is identified with the velar [x], and /ʕ/, /ʔ/, and /h/ may all be manifested as zero. The optional realization of /ʔ/ (whether original or "merged") and sometimes /h/ is generally restricted to pretonic environments.

Three other losses of earlier phonetic distinctions can be noted: the glide /w/ is generally pronounced exactly like the labial spirant [v]; and of the original set of six spirant alternants for the stops *p*, *b*, *t*, *d*, *k*, and *g*, only the two labials /b/ and /p/ and the voiceless velar /k/ have spirant counterparts – [v], [f], and [x], respectively – which are generally pronounced in contemporary Israeli usage.

This pattern of "loss of distinctions" is clearly reflected in the chart below, which lists the 22 consonant symbols of the accepted orthography along with the pronunciation typical of each such segment in contemporary General Israeli Hebrew.

(1)

Symbol	Name	Original Pronunciation	Contemporary Pronunciation
א	*álef*	ʔ	ʔ or zero
ב	*bet*	b	b
	vet	v	v
ג	*gímel*	g ɣ	g
ד	*dálet*	d ð	d
ה	*he*	h	h or zero
ו	*vav*	w	v
ז	*záyin*	z	z
ח	*xet*	ħ	x
ט	*tet*	ṭ	t
י	*yod*	y	y
כ	*kaf*	k	k
	xaf	x	x
ל	*lámed*	l	l
מ	*mem*	m	m
נ	*nun*	n	n
ס	*sámex*	s	s
ע	*áyin*	ʕ	ʔ or zero
פ	*pe*	p	p
	fe	f	f
צ	*cádi*	ṣ	c
ק	*kof*	q	k
ר	*reš*	r	r
ש	*šin*	š	š
	sin	ś	s
ת	*tav*	t θ	t

Another loss in the consonantal system is the non-realization of consonantal gemination — manifested to this day in the *nikud* pointing system of the orthography by the so-called *dageš forte* (see Section 2.3.3 below). A parallel phenomenon in the vowel system is the loss of the

phonological distinction between tense and lax (or alternately between long and short) vowels – all five vowels of Modern Hebrew (*i, e, a, o*, and *u*) being pronounced in a manner close to their tense, cardinal-vowel counterparts.[5]

(2)

Traditional Symbol	Name	Original Phoneme, "Sefardi" Analysis[6]	Contemporary Phoneme
ִX	*xirik male*	ī	i
X	*xirik xaser*	ĭ	
X	*cere*	ē	e[7]
X	*segol*	ɛ	
X	*kamac gadol*	ā	a
X	*patax*	ă	
וX, וֹ	*xolam*	ō	o
X	*kamac katan*	ŏ	
וּ	*šuruk*	ū	u
X	*kubuc*	ŭ	

In rapid speech, these five vowels of Modern Hebrew, if unstressed, may be laxed or even reduced to schwa; but in systematic phonological terms, there is no longer any distinction between a class of tense as against lax vowels such as was once operative in Hebrew, with concommitant implications for syllable structure, vowel reduction, spirantization, and other processes.

In general, it seems to be the case that the conflict between general colloquial usage and the normative requirements of the puristic tradition noted in Chapter One is particularly marked with respect to pronunciation – for purists will, quite naturally, tend to deplore such changes as the loss of phonetic [h] or the non-application of spirantization in environments where it was traditionally required (see Section 2.2.7 below). A sociolinguistic view of the sound system of contemporary Hebrew reflects the fact that the usage-correctness controversey is always most virulent when a given phenomenon or set of phenomena are in a state of transition; and the peculiar circumstances of the revival of Hebrew as a living, spoken language have created a particularly acute "transitional" situation in its

pronunciation. But this state of flux has implications for linguistic analysis and description, too, for in many cases, rules and features cannot be characterized in any straightforward or general way – just because of the rapid and constant process of change which they are undergoing. The process of spirantization as described in Section 2.2.7 below and the situation with respect to the "guttural" consonants (Section 2.3.1) as well as the "segolate" class of nouns (Section 2.4.1) are clear instances of this difficulty.

Thus, the loss of phonological distinctions and merging (or loss) of independent phonemes may be well-established by now – as in the case of tense and lax vowels, the emphatics, /ʕ/ merging with /ʔ/, /w/ merging with [v], etc.; or it may still be in flux – as could be claimed regarding /ʔ/, /h/, and aspects of the behavior of /ħ/ (see Section 2.3.1 below). The opposite type of development – that is, where formerly predictable allophones achieve independent status in Modern Hebrew (owing to surface opacity created by the phonological mergers noted above, as well as the influences of substratrum European languages) – may also be fully accomplished by now, as where the fully predictable historical schwa is replaced by *e*;[8] or it may still be in flux – for instance, the six spirants of Biblical Hebrew, originally in complementary distribution with their related stops (the former occurring after vowels, the latter elsewhere), are becoming less and less predictable, thus gradually acquiring independent phonemic status.

With historical phonetic conditioning being obliterated this way, it transpires that phonetically conditioned variation is relatively limited in Modern Hebrew – although low-level phonetic processes do account for some expected, almost universal allophones of the language; for example, nasal assimilation may optionally yield a velar nasal before a velar stop, the precise point of articulation of a velar stop is determined by the degree of backness of the following vowel, and so on. In most cases, however, allophonic variation does not seem to offer the kind of insight into the sound system of Modern Hebrew as is afforded by the rich array of its morphophonemic variations. This chapter will, accordingly, focus on the description of certain morphophonemic alternations in the phonological system of contemporary "General Israeli" Hebrew – although here and there a few surface phonetic constraints and related processes will be noted. (For more detailed considerations of specific aspects of Modern Hebrew phonology, see Barkai 1972, Blau 1972, Bolozky 1972a, Chayen 1969, Marbé 1971, Ornan 1973, Rosen 1956, and Schwarzwald 1973a).

2.1 VOICING ASSIMILATION: A PHONETICALLY CONDITIONED ALTERNATION

Morphophonemic alternation may sometimes be stated in purely phonetic terms. Thus, the optional process of (regressive) voicing assimilation of Modern Hebrew, obligatory in fast speech (except when the first obstruent is a voiceless fricative or affricate, in which case it is still optional), is a general phonetic process, applying throughout the language.

(3) VOICING ASSIMILATION:

$$\begin{bmatrix} C \\ -\text{son} \end{bmatrix} \rightarrow [\alpha\,\text{voice}] \;/\; \text{—} \; \begin{bmatrix} C \\ -\text{son} \\ \alpha\text{voice} \end{bmatrix}$$

(4)	[dafak]	'knocked'	~ [yidfok]	'will knock'	~ [yitfok][9]
	[géšer]	'bridge'	~ [gšarim]	'bridges'	~ [kšarim]
	[zakan]	'beard'	~ [zkanim]	'beards'	~ [skanim]
	[dakar]	'stabbed'	~ [yidkor]	'will stab'	~ [yitkor]
	[sagar]	'closed'	~ [yisgor]	'will close'	~ [yizgor]
	[pazal]	'squinted'	~ [pzila]	'squinting'	~ [bzila]
	[šadad]	'robbed'	~ [yišdod]	'will rob'	~ [yižd od]

There are two classes of exceptions to Rule (3). Firstly, [v] does not cause voicing assimilation; thus: [kvar] 'already', [kviš] 'road', [tikva] 'hope'. Sometimes, however, progressive voicing assimilation may occur, as in: [kfar], [kfiš], etc. Secondly, [x] does not undergo voicing assimilation, thus: [exzir][10] 'returned (Trans)', [yixboš] 'will conquer'. In fast speech, however, both types of exceptions may optionally be regularized to yield, for instance: [kvar] ~ [gvar], [kviš] ~ [gviš], [exzir] ~ [eɣzir], [yixboš] ~ [yiɣboš].

2.2 SOME MORPHOLOGICALLY, CATEGORIALLY, AND LEXICALLY RESTRICTED ALTERNATIONS

Most morphophonemic alternations – unlike voicing assimilation – cannot be stated in purely phonetic terms. Additional non-phonetic information will normally be required to further define the items of the lexicon which they are constrained to, or the paradigm, either partial or whole, beyond which they do not apply. Thus, morphophonemic rules may require reference to native vs. non-native words, to a syntactic category, to a paradigm or to part of one, to some other idiosyncratic

feature, and sometimes even to particular morphemes – in which case they are clearly morphological. Examples of this latter type are the first to be considered below.

2.2.1 Alternations Confined to Specific Morphemes

Below are two illustrations of morphophonemic alternations restricted to particular morphemes. The first is based on the verb root l–q–ħ 'take'.

(5) [lakax] 'took' ~ [yikax] 'will take'

The consonant /l/ is deleted in the Future paradigm of this verb in the first conjugation, *binyan kal* (see Section 3.3.1). No other verb with a stem-initial /l/ is thus affected. Thus, [lavaš] 'wore' ~ [yilbaš] 'will wear', [laxac] 'pressed' ~ [yilxac] 'will press', etc.

Another example relates to the verb root n–t–n 'give': the final /n/ of the stem form *natan* 'gave' is deleted in the 1st and 2nd Person of the Past. Thus:

(6) [natá+ti] 'I gave'
[natá+ta] 'you gave'
[natá+tem] 'you(Pl) gave'

No other stem-final /n/ is affected in this way. Compare: [ratán+ti] 'I grumbled', [eván+ti] 'I understood', [kiván+ti] 'I aimed', etc.

2.2.2 Minor Rules Within a Particular Class of Morphemes

Other morphophonemic alternations apply to a group of morphemes in a restricted environment – that is, in a specific verb or noun pattern or in part of it. Such a group may be relatively small, with each item lexically marked as having to undergo the rule. Three such "minor" rules are illustrated below: a) Regular verbs in the first conjugation with an underlying stem-initial glottal stop alternate in the following manner:

(7) (i) /ʔavad/ 'worked' (ultimately: [avad]) ~ *yaʔavod* 'will work' (ult: [yaavod])

(ii) /ʔamad/ 'stood' (ult: [amad]) ~ *yaʔamod* 'will stand' (ult: [yaamod])

and sometimes as follows:

(iii) /ʔanas/ 'raped' (ult: [anas]) ~ *yeʔenos* 'will rape' (ult: [yeenos])

(although *yaʔanos* (ultimately [yaanos]) is equally common in colloquial usage, it is frowned upon by purists).[11]

There are a few verbs starting with /ʔ/, however, in which the /aʔa/ sequence is coalesced into [o]; thus:

(8) (i) /ʔaxal/ 'ate' ~ [yoxal] 'will eat'
(ult: [axal])

(ii) /ʔavad/ 'got lost' ~ [yovad] 'will get lost'
(ult: [avad], homophonous with 'worked' above)

(iii) /ʔamar/ 'said' ~ [yomar] 'will say'
(ult: [amar])

Very few verbs are so affected (probably only some half-dozen in all), and there is no way of predicting which of the relevant verbs will be involved in this minor rule.

b) When the stem begins with the glide /y/, there are again two possible types of alternations in the first conjugation:

(9) (i) [yaraš] 'inherited' ~ [yiraš] 'will inherit'
[yanak] 'sucked' ~ [yinak] (or [yinok]) 'will suck'

(ii) [yarad] 'descended' ~ [yered] 'will descend'
[yašav] 'sat' ~ [yešev] 'will sit'

Thus, verbs beginning with /y/ will have to be marked as to which of these two forms they happen to take in the Future.

c) A third minor rule, also applying only in the first conjugation (*kal* or *paal*), is the rule of *n*-Deletion.

(10) *n*-DELETION: $/n/ \rightarrow \emptyset \;/\; V+ \text{—} C$

(i) [nafal] 'fell' ~ [yipol] 'will fall'
(ii) [nasa] 'went, traveled' ~ [yisa] 'will go, travel'
(iii) [naga] 'touched' ~ [yiga] 'will touch'

The rule is restricted to the first conjugation, *kal*, since this is the only pattern where actual alternation is involved – except, possibly for the *nifal* conjugation, where forms like [nical] 'was saved' from /ni+ncal/ alternate with [yi+nacel] 'will be saved'. But it may be argued that synchronically [nical] is reinterpreted as *nical*, i.e., that /n/ has become part of the stem. If Barkai 1975 and Schwarzwald 1973a are correct in claiming that the related *hifil* conjugation forms, e.g., [ipil] 'dropped,

caused to fall', [isía] 'gave a ride', etc., are no longer derived synchronically from representations such as /hi+npil/ and /hi+nsia/, respectively (see fn. 10), then *n*-Deletion should be restricted to the first conjugation, *kal*. Besides, even in this conjugation it is a minor rule, since exceptions such as those listed below clearly outnumber the few cases where /n/ is still deleted in Modern Hebrew.

(11)

Past		Future	
[nakat]	~	[yinkot]	'take (measures)'
[navax]	~	[yinbax] (or [yinvax])	'bark'
[našam]	~	[yinšom]	'breathe'
[nagad]	~	[yingod]	'be contrary to'
[nagas]	~	[yingos]	'will bite'

Cases of *n*-Deletion need to be specifically marked, then, as undergoing the rule.

2.2.3 More Productive Rules Confined to a Few Classes of Morphemes

Sometimes a larger group of morphemes is involved, but the rule, though not contradicted by numerous exceptions, is still confined to a given verb or noun pattern (see Section 3.3) or a part thereof. Below we examine three examples of this type.

a) The process of *a*-Raising, whereby: $a \rightarrow e \,/\, __ +CV$, is applicable to a considerable number of morphemes, but is restricted to the Past and Present paradigms of the *hifil* conjugation, as shown below:

(12)

Past	Present[12]	Future	
[evin]	[mevin]	[yavin]	'understand'
[ekim]	[mekim]	[yakim]	'found, establish'
[erim]	[merim]	[yarim]	'raise'
[eric]	[meric]	[yaric]	'run (Trans)'
[ešiv]	[mešiv]	[yašiv]	'return (Trans)'

The rule does not apply anywhere else; compare, for example, nouns like [ma+kom] 'place', [ma+xon] 'institute', [ma+ceva] 'tombstone', [ma+sexa] 'mask'. Also, verbal forms in the *kal* conjugation that meet the structural description of this rule in the Future, e.g., [ya+kum] 'will rise', [ya+ruc] 'will run', [ya+šir] 'will sing', [ya+vo] 'will come', do not have a prefix in their Past and Present counterparts, so that the rule in question is irrelevant for these forms. Other #CV+CV sequences are found in the Present and Future of the *piel* and *pual* conjugations – as in [me+daber] 'speaks', [ye+kabel] 'will accept', [me+kubal] 'is accepted', [ye+dubar]

'will be said', the Past counterparts of which have no prefix at all – and in the Future of the *nifal* conjugation – e.g., [yi+šamer] 'will be careful', [yi+baxer] 'will be chosen', where the Past and Present forms start with a #Ci+CC sequence. Theoretically, it may be claimed that the rule of *a*-Raising applies to the whole verb-system, and that the structural description happens to be met only in the *hifil* conjugation (see (12) above). It is hard, however, to think of any positive evidence for such a vacuous extension of this domain.

b) A second rule that is not minor in the sense of applying to marked morphemes only, but is still confined to a specific morphological class, is the deletion of pre-tonic /e/ or /a/ in the two noun/adjective patterns {CiCeC+VC} and {...+*an*}. Examples of the former include (where, again, stress is on the final syllable of the entire word, not of the stem alone, unless specifically indicated as noted in fn. 4):

(13)	**Masc.Sg.**	**Fem.Sg.**	**Masc.Pl.**	**Fem.Pl.**	
	[tipeš]	[tipš+a]	[tipš+im]	[tipš+ot]	'fool'
	[xiver]	[xivér+et]	[xivr+im]	[xivr+ot]	'pale'
	[giben]	[gibén+et]	[gibn+im]	[gibn+ot]	'hunchback'

The rule applies to all members of this class, but is in itself exceptional, since the vowel that is normally deleted in nouns and adjectives is located two syllables away from the stress, as in:

(14)	[šaxen]	'neighbor'	~ [šxen+im] (Pl)
	[gader]	'fence'	~ [gder+ot] (Pl)
	[šamen]	'fat'	~ [šmen+a] (Fem)

The same pre-tonic deletion rule applies to /e/ and /a/ in the {...+*an*} pattern, thus:

(15)	[maapex+a]	'revolution'	~ [maapx+an]	'revolutionary'
	[psanter]	'piano'	~ [psantr+an]	'pianist'
	[totax]	'gun'	~ [totx+an]	'gunner'

Pre-tonic deletion does not, however, apply to the high vowels /i/ and /u/ in the same pattern; thus:

(16)	[maxšir]	'instrument, tool'	~ [maxšir+an]	'operator of instrument'
	[matir]	'permits'	~ [matir+an]	'permissive'
	[alxut]	'wireless'	~ [alxut+an]	'wireless operator'
	[agur]	'crane (bird)'	~ [agur+an]	'crane (machine)'

One alternative is to view this rule as an extension of Vowel-Deletion in verbs, which also deletes a pre-tonic /a/ and /e/; this would give a single, combined *e*-Deletion rule as against the deletion of /a/ in non-verbal forms which, as shown in (14) above, applies not pre-tonically but two syllables away from the stressed suffix. Note, however, that there is no way of stating the two deletions of /e/ as one general rule. Even if we order a combined pre-tonic *e*-Deletion after *a*-Deletion in non-verbal forms, to account for [šaxen] ~ [šxenim], etc. (an intermediate *šxen+im* would not undergo *e*-Deletion, since an inadmissable CCC sequence would be formed), we would still have to explain why /e/ does not undergo deletion in such words as: [magef+a] 'plague', [masex+a] 'mask', [mefer+im] '(they) violate', [moec+a] 'council', [maapex+a] 'revolution', [arev+im] 'guarantors', [atalef+im] 'bats'. These forms clearly indicate that pre-tonic *e*-Deletion must be restricted to the patterns illustrated in (13) and (15) above.

c) A third rule which has no exceptions but is similarly restricted morphologically is in the *hitpael* conjugation:

(17) *HITPAEL*-METATHESIS:

$$\begin{matrix} & & \begin{bmatrix} \text{C} \\ +\text{cor} \\ -\text{son} \end{bmatrix} \\ \text{t} + & & \\ 1\ 2 & 3 & \rightarrow\ 3\ 2\ 1 \end{matrix}$$

/it+salek/ → [istalek] 'went away', cf. [itbalet] 'jutted out'
/it+saper/ → [istaper] 'had one's hair cut', cf. [itxaper] 'burrowed'
/it+šaper/ → [ištaper] 'improved', cf. [itnapec] 'crushed'
/it+šalev/ → [ištalev] 'integrated', cf. [itlaked] 'united'
/it+camek/ → [ictamek] 'shrank', cf. [itkamet] 'wrinkled'

This rule of Silibilant-Metathesis is restricted to the *hitpael* conjugation of verbs and its corresponding Action-Noun pattern (see Section 10.1) as in: /it+salkut/ → [istalkut] 'going away', /it+šaprut/ → [ištaprut] 'improving/improvement', and so on. It does not apply to any other {*t* + Sibilant} sequences; compare: /tsis+a/ = [cisa] 'fermentation', /i+tsis/ = [icis] 'ferment (Trans)', /tšur+a/ = [čura] 'gift', /i+tšiš/ = [ičiš] 'exhaust'. Moreover, it is not even restricted to cases where a morpheme boundary intervenes, since the following also occur: /t+sumet##lev/ = [cumet ...] 'attention', /t+šuv+a/ = [čuva] 'answer', [t+zuz+a] 'movement', and so on. Again one could vacuously extend this rule to the whole verb-system, and claim that its non-application beyond the *hitpael* conjugation is accidental;

but such a spurious generalization does not seem to be motivated by anything beyond the desire to extend the domain of this rule.

An interesting question in this connection concerns the interaction of *hitpael*-Metathesis and Voicing Assimilation. Derivations such as:

(18) /it+zaken/ → [izdaken] 'grew old'
/it+zarez/ → [izdarez] 'hurried'
/it+zakef/ → [izdakef] 'stood up'

show clearly that Voicing Assimilation has taken place. Now in Hebrew, Voicing Assimilation is regressive (see Section 2.1 above), and this means that it must precede Metathesis, for otherwise an incorrect output will result. Thus:

(19) (i)

Underlying Representation:	/it+zakef/
Voicing Assimilation:	id+zakef
Metathesis:	iz+dakef
Phonetic Output:	[izdakef]

(ii)

Underlying Representation:	/it+zakef/
Metathesis:	iz+takef
Voicing Assimilation:	is+takef
Phonetic Output:	*[istakef]

Having Voicing Assimilation, which is a low-level phonetic rule, precede Metathesis, a morphological rule, is strange. Instead, one of the following two alternatives should be adopted:

1) That in this particular case, assimilation be progressive rather than regressive, i.e., that we have a derivation like:

(20)

Underlying Representation:	/it+zakef/
Metathesis:	iz+takef
Voicing Assimilation (Progressive):	iz+dakef
Phonetic Output:	[izdakef]

or 2) That for this case the "no ordering" version of Koutsoudas *et al.* 1974 be adopted, that is, that all rules apply simultaneously to the underlying representation and reapply in an unordered fashion as long as their structural description is met. Both rules would apply simultaneously to the underlying representation and yield the correct

output. It should be noted that *hitpael*-Metathesis (though not necessarily other phenomena discussed in this chapter) seems to be handled better by this proposal of Koutsoudas *et al.* than by the "no ordering" position taken by Natural Generative Phonologists (e.g., Vennemann 1971, 1974, and Hooper 1973, 1975), which allows unordered application of rules by **sequence** (with reapplication, of course) rather than simultaneity. The clear advantage of (2) is that it does not require an ad hoc rule of progressive assimilation, otherwise totally unmotivated for Hebrew.

2.2.4 Stem-Final Vowel Lowering: A Surface Generalization in the Verb System

A different kind of rule is the one that lowers a stressed stem-final /i/ or /e/ to [a] in a closed syllable in verbal forms. This process accounts for alternations in three of the seven verb-conjugations discussed in Section 3.3.1.

(21) STEM-FINAL VOWEL LOWERING IN THREE VERB CONJUGATIONS

piel, B-3:	[kišer]★	~ [kišárti]	(1st,Sg)	'connect'
	[diber]	~ [dibárta]	(2nd,Masc,Sg)	'speak'
	[siper]	~ [sipárnu]	(1st,Pl)	'tell,relate'
hitpael, B-4:	[itkašer]	~ [itkašart]	(2nd,Fem,Sg)	'contact'
	[itlabeš]	~ [itlabáštem]	(2nd,Masc,Pl)	'dress'
hifil, B-5:	[ikdim]	~ [ikdámti]	(1st,Sg)	'be early'
	[ixtiv]	~ [ixtávtem]	(2nd,Masc,Pl)	'dictate'
	[isbir]	~ [isbárnu]	(1st,Pl)	'explain'

★All forms are given in the Past Tense – the first being the stem form (3rd Pers. Masc.Sg.) and the second as specified.

This rule does not apply when the suffix is, or starts with, a vowel. Thus: [dibr+a] 'she spoke', [medabr+im] '(they) are speaking', [ixtív+u] 'they dictated', [maxtiv+im] '(they) are dictating', etc. Since the rule operates in a closed system, it is hard to tell whether the triggering element is the stress, that is, whether the rule should be formulated as:

(22) $$\begin{bmatrix} V \\ -back \\ +stress \end{bmatrix} \rightarrow [+low] \; / \; \text{—CC}$$

or whether it is the vowel's position in the stem that does it, as formulated below:

(23) $\begin{bmatrix} \text{V} \\ \text{-back} \\ \text{+stem} \end{bmatrix} \rightarrow [+\text{low}] \; / \text{—C+C}$

As shown in (21), the rule operates in only three verb-conjugations. Nonetheless, unlike the cases of *hitpael*-Metathesis (see (18) above) and the rule of *a*-Raising illustrated in (12) above, the absence of alternations in the other verb-conjugations should, it seems, be interpreted differently in this case. Though four of the seven verb-conjugations do not display stem-final Vowel Lowering, they contribute to what Kiparsky (1971, 1973) refers to as the "transparency" of this rule. Note that the low vowel /a/ occurs in the relevant environment – in stem-final tonic position, followed by two consonants – in the four other conjugations as well, as shown in (24). This, in a sense, reinforces the stem-final Vowel Lowering rule by introducing additional surface sequences that correspond to the output. Thus (with only the first two (Past) forms being listed here):

(24)

	1st Sg.	2nd Masc.Sg.	
paal, B-1:	[katáv+ti]	[katáv+ta]	'write'
nifal, B-2:	[nirdám+ti]	[nirdám+ta]	'fall asleep'
pual, B-3_{ps}:	[sulák+ti]	[sulák+ta]	'be driven away'
hufal, B-5_{ps}:	[uzkár+ti]	[uzkár+ta]	'be mentioned'

Although the unaffixed forms – such as [katav] 'he wrote', [nirdam] 'he fell asleep', etc. – also have a stem-final /a/, it seems that the absence of surface counter-examples to the output combined with the surface "support" for the output in all of the other conjugations is significant. This is not the case with the *hitpael*-Metathesis and the *hifil* /a/ ~ /e/ alternation rules – as described in Section 2.2.3 above – which could be formulated in such a way as to eliminate counter-examples throughout the verb-system, but which lack any "supporting" surface outputs of the sort illustrated for the present rule in (24) above. As a generative process, the rule under discussion applies in three conjugations only, but the surface generalization – that is, that the vowel occurring in {—C+C} position is [a] – is true of the verb-system as a whole.

There are two groups of "defective" verbs (in the sense of verbs with one or more root consonants in the underlying form of the glides /y/ and /w/ or the "gutturals" referred to in Section 2.0 above – see also Section 3.2) where the stem-final vowel before a suffix-initial consonant is not /a/. One is the class of verbs whose underlying final root-radical is /ʔ/, excluding those cases of /ʔ/ that originated from historical /ʕ/ (see fn. 11), in four of the seven verb conjugations. Thus (all examples in 1st Pers. Past form):

(25)	*nifal*, B-2:	/nimceʔ+ti/ or /nimcaʔ+ti/	→ [nimcéti]	'be found'
	piel, B-3:	/biteʔ+ti/	→ [bitéti]	'express'
	hitpael, B-4:	/itbateʔ+ti/	→ [itbatéti]	'express onself'
	hifil, B-5:	/imceʔ+ti/ or /imciʔ+ti/	→ [imcéti]	'invent'

The underlying forms /biteʔ+ti/ and /itbateʔ+ti/ are no problem, since their 3rd Person counterparts are [bite] 'he expressed' and [itbate] 'he expressed himself', respectively. The question is whether /nimceʔ+ti/, with [nimca] 'he was found' in mind, and /imceʔ+ti/, with its counterpart [imci] 'he invented', are indeed underlying representations or structures derived by some rule that turns vowels into [e] in this environment. Whatever the answer, it is possible that {...eʔ+C} sequences undergo ʔ-Deletion before our rule, thus "bleeding" it (that is, destroying the environment that would have met its structural description). In cases where /ʔ/ originated from historical /ʕ/, the underlying vowel would be /a/ to start with, and if indeed there is a rule that turns vowels into [e] before /ʔ/ (in certain environments), such instances of /a/ will have to be marked as exceptions, or alternatively, forms with stem-final [e] will be marked for undergoing a minor /a/ → [e] rule. The rule of ʔ-Deletion would thus yield: /šamaʔ+ti/ → [šamáti] 'I heard', /nifgaʔ+ti/ → [nifgáti] 'I was hurt', /bicaʔ+ti/ → [bicáti] 'I performed', and so on.

The second group of verbs in which the stem-final vowel before a suffix-initial consonant is not realized as [a] is the one introduced in 2.2.5b below. When a suffix with an initial consonant is appended to a stem which ends with a vowel (underlying as well as on the surface), the stem-final vowel is either [i] or [e], depending on the particular conjugation. Thus (all examples in Past Tense form):

(26)

	1st Sg.	3rd Masc.Sg.	
paal, B-1:	[kaníti]	[kana]	'buy'
nifal, B-2:	[niknéti]	[nikna]	'be bought'
piel, B-3:	[gilíti]	[gila]	'discover'
pual, B-3_{ps}:	[guléti]	[gula]	'be discovered'
hitpael, B-4:	[itgaléti]	[itgala]	'appear'
hifil, B-5:	[iknéti]	[ikna]	'cause to acquire'
hufal, B-5_{ps}:	[ufnéti]	[ufna]	'be turned'

Since there is no good synchronic reason for assuming a third consonant in these roots, the presence of [i] or [e] at the end of the stem does not conflict with our rule in any way, and the output of stem-final Vowel Lowering as formulated in (22) and (23) above is not contradicted by these cases either. Thus, in a sense, stem-final Vowel Lowering can be said to apply right across the entire verb-system.

2.2.5 Alternations Confined to the Verb System

Certain alternations can be characterized as processes which are found in all or most of the seven *binyan* conjugations of the verb, but which do not apply outside of the verb-system. Two such processes are considered below.

a) **Stem-Final Non-High Vowel Deletion**

The verb is the domain of a rule which deletes stem-final /a/ and /e/ and possibly also /o/ before a stressed vowel that forms, or starts, the suffix; that is:

(27) $\begin{bmatrix} V \\ -high \end{bmatrix} \rightarrow \emptyset \; / \; —C_O^1 \; +\acute{V}C_O\#$

[katáv] 'he wrote'	~	[katvú] 'they wrote'
[kotév] '(he) writes'	~	[kotvím] '(they) write'
[tedabér] 'you will speak'	~	[tedabrí] 'you(Fem) will speak'
[medabér] '(he) speaks'	~	[medabrót] '(they-Fem) speak'
[yesudár] 'it will be arranged'	~	[yesudrú] 'they will be arranged'
[itlabéš] 'he dressed'	~	[itlabšá] 'she dressed'
[tikné] 'you will buy'	~	[tikní] 'you(Fem) will buy'
[nikná] 'it was bought'	~	[niknú] 'they were bought'

Stem-final Vowel Deletion before a stressed suffix does **not** apply to high vowels (28-i) or to stressed vowels, whether high or non-high (28-ii); thus:

(28) (i) [masbír] '(he) explains' ~ [masbirá] '(she) explains'
[mevín] '(he) understands ~ [meviná] '(she) understands'

(ii) [isbír] 'he explained' ~ [isbíra] 'she explained'
[yakúm] 'he will rise' ~ [yakúmu] 'they will rise'
[egén] 'he defended' ~ [egénu] 'they defended'

Rule (27) is also constrained by a restriction which blocks the formation of a three-consonant cluster as a result of Vowel Deletion. That is, if a non-high vowel is in the right environment, but deletion would yield a CCC sequence, the vowel in question is not deleted but is reduced to [e] (or maintained as such, if it is underlyingly so). In some people's speech, this [e] freely alternates with the more normative [ə], for example:

(29)
[yixtov] 'he will write'	~ [yixtevu]/[yixtəvu] 'they will write'
[nixtav] 'it was written'	~ [nixteva]/[nixtəva] 'it(Fem) was written'
[uxtav] 'it was dictated'	~ [uxtevu]/[uxtəvu] 'they were dictated'
[tuzkar] 'you will be mentioned'	~ [tuzkeri]/[tuzkəri] 'you(Fem) will be mentioned'
[pirsem] 'he published'	~ [pirsema]/[pirsəma] 'she published'
[yefursam] 'it will be published'	~ [yefursemu]/[yefursəmu] 'they will be published'

Note that [niknu] in (27) above, although belonging to the same conjugation as [nixteva] in (29) above, does undergo deletion, since no three-consonant cluster is formed in the process. Similar reduction and avoidance of deletion occurs in cases where deletion would yield a geminate cluster. For example: [xagag] 'he celebrated' ~ [xagega] 'she celebrated', [xitet] 'he bored' ~ [xitetu] 'they bored', [titpalel] 'you will pray' ~ [titpaleli] 'you(Fem) will pray'.

It is difficult to determine whether to: (i) have deletion apply whenever the structural description is met and then break resulting CCC or C_iC_i clusters by inserting [e]; or (ii) reduce all vowels meeting the structural description to [e], and then delete only where a CCC or C_iC_i

sequence could not result; or (iii) directly delete only where a CCC or C_iC_i sequence would not result, and directly reduce to [e] where it would. Clearly the third possibility is the most "concrete"; in the first, we have an intermediate inadmissable cluster, and in the second, a possible but non-existent one. It should be mentioned, however, that the first analysis alone captures the immediate correspondence between apparently deviant forms and regular forms in the same morphological class; for example, in cases of C_iC_i, [zalelan] 'glutton' or [xatetan] 'meddler' correspond to forms like [kamc+an] 'miser' and [rakd+an] 'dancer' if underlying /zall+an/ and /xatt+an/, respectively, are assumed, just as [noxex+ut/ 'presence' corresponds to [soxn+ut] 'agency', etc. if underlying /noxx+ut/ is assumed.

Another difficulty arises in connection with alternations in the Present Tense of the *nifal* B-2, *pual* B-3_{ps}, and *hufal* B-5_{ps} (passive) conjugations. Thus:

(30)

B-2:	[nixtav]	'is written'	~ [nixtavim] 'are written'
B-3_{ps}:	[mekubal]	'is accepted'	~ [mekubalot] 'are accepted (Fem)'
B-5_{ps}:	[muxtav]	'is dictated'	~ [muxtavim] 'are dictated'

The question is why [a] is not deleted in [mekubalot], and why it is not reduced to [e] in the other two forms. Could it be that [a] is deleted before $+\acute{V}\#$ but not before $+VC\#$ suffixes? It is difficult to ascertain.

In any case, our Deletion Rule (27) – or rather Deletion and/or Reduction Rule – applies to each of the seven *binyan* verb-conjugations (with one exception, in that B-5 *hifil* has a stem-final [i] throughout), and it is thus a typical "verb rule." Its being restricted to the verb system is reinforced by the fact that the vowel which is deleted in non-verb forms such as nouns, adjectives, etc. is not the pretonic but rather the antepretonic vowel (see 2.2.6 below).

b) **Raising of Past-Tense Final /a/**

Another example of an alternation occurring in all but only verbal forms is the following: When underlying unsuffixed Past forms end with /a/, the corresponding unsuffixed Present and Future forms will end with

[e] throughout the verb system. (The forms concerned must end with an underlying /a/, since forms with an underlying word final /ʔ/, which look the same on the surface, are not similarly affected.) Thus, for example:

(31)

	Past	Present	Future	
paal, B-1:	[kana]	[kone]	[yikne]	'buy'
	[bana]	[bone]	[yivne]	'build'
nifal, B-2:	[nikna]	[nikne]	[yikane]	'be bought'
	[nivna]	[nivne]	[yibane]	'be built'
piel, B-3:	[gila]	[megale]	[yegale]	'discover'
	[šina]	[mešane]	[yešane]	'change'
pual, B-3_{ps}:	[gula]	[megule]	[yegule]	'be discovered'
	[šuna]	[mešune]	[yešune]	'be changed'
hitpael, B-4:	[itgala]	[mitgale]	[yitgale]	'appear'
	[ištana]	[mištane]	[yištane]	'change (Int)'
hifil, B-5:	[ikna]	[makne]	[yakne]	'cause to acquire'
	[ifna]	[mafne]	[yafne]	'turn (Trans)'
hufal, B-5_{ps}:	[ukna]	[mukne]	[yukne]	'be acquired'
	[ufna]	[mufne]	[yufne]	'be turned'

There are certain variations in casual or colloquial pronunciation; e.g., the final /a/ of *hitpael* Past forms may freely alternate with [e], and the final [e] of *nifal* and *hufal* Present forms with [a]. In most common usage, however, the generalization illustrated in (31) holds throughout the verb-system.

2.2.6 Alternations Confined to Non-Verbal Forms: The Case of *a*-Deletion

In non-verbs such as nouns and adjectives, only /a/ is deleted in the presence of a stressed suffix. Moreover, deletion applies not in pretonic position as in the verb, but rather two syllables before the stress, thus:

(32) ANTE-PRETONIC *a*-DELETION: $a \rightarrow \emptyset \,/\, \text{---}\ CVC + \acute{V}C_0\#$

Masc.Sg.	Fem.Sg.	Masc.Pl.	Fem.Pl.	
[davár]	- -	[dvarím]	- -	'thing'
[šafán]	[šfaná]	[šfaním]	[šfanót]	'rabbit'
[pakíd]	[pkidá]	[pkidím]	[pkidót]	'clerk'
[katán]	[ktaná]	[ktaním]	[ktanót]	'small'
[gadól]	[gdolá]	[gdolím]	[gdolót]	'big'
[katúv]	[ktuvá]	[ktuvím]	[ktuvót]	'written'
[šamén]	[šmená]	[šmením]	[šmenót]	'fat'
[zaríz]	[zrizá]	[zrizím]	[zrizót]	'nimble'
[pitarón]	- -	[pitronót]	- -	'solution'

Rule (32) does not apply to vowels other than /a/ in the same environment, however; thus:

(33)

[tinók]	'baby'	~ [tinokót] (Pl)
[duxán]	'(a)stall'	~ [duxanim] (Pl)
[terúc]	'pretext'	~ [terucím] (Pl)
[koláv]	'hanger'	~ [kolavím] (Pl)
[šováv]	'naughty'	~ [šovavá] (Fem)
[šovavím]	'naughty (Pl)'	~ [šovavót] (Fem,Pl)

It seems that synchronic attempts to extend Rule (32) to other vowels in order to derive the plural of segolate nouns such as [kelév] ~ [klavím], [bóker] ~ [bkarím] (see Section 2.3.1 below) involve additional ad hoc rules that cannot be properly motivated.

When a CCC would have been formed in the process, *a*-Deletion is blocked. Thus:

(34)

Singular	Plural	
[batlan]	~ [batlanim]	'lazy'
[takdim]	~ [takdimim]	'precedent'
[masmer]	~ [masmerim]	'nail'

Although *a*-Deletion is fairly regular, it has quite a few classes of exceptions. For instance, whenever it was historically followed by a geminate, it is blocked synchronically. For example:

(35)

Singular	Plural	
[napax]	[napaxim]	'blacksmith'
[kacav]	[kacavim]	'butcher'
[tapil]	[tapilim]	'parasite'
[patiš]	[patišim]	'hammer'
[kabir]	[kabirim]	'huge'
[šapud]	[šapudim]	'skewer'

Historically, the reason was the same as shown in (34): deletion would have created a CCC sequence; for example: /nappaħ/ ~ /nappaħim/, /kabbir/ ~ /kabbirim/, and so on. However, since this gemination no longer exists synchronically, we simply have to assume that speakers have memorized the cases in which *a*-Deletion is blocked as quite idiosyncratic lexical lists – though it is possible that these lists are organized in morphological classes, since when deletion is blocked, it is blocked in entire morphological classes or patterns (see 3.3.3), and not, in fact, in arbitrary groups of lexically-marked morphemes.

Since a glottal cannot be immediately followed by a consonant, *a*-Deletion is further blocked in cases where such a sequence would have been formed in the process. For example:

(36)

/harug/ 'killed' (ult: [arug])	~ /harugim/ (Pl) (ult: [arugim])
/ʔavud/ 'lost' (ult: [avud])	~ /ʔavuda/ (Fem) (ult: [avuda])
/ʔašir/ 'rich' (ult: [ašir])	~ /ʔaširot/ (Fem,Pl) (ult: [aširot])

Sequences of #C$\{^{?}_{h}$ and #$\left[\begin{smallmatrix} C \\ +son \end{smallmatrix}\right]$C are also disallowed, the former because of a now-morphologized constraint (see Section 2.3.1 below) which restricts the glottal on-glide to syllable-initial position (and # usually coincides with a syllable boundary), and the latter because, in Hebrew, sonorant consonants must be flanked by a vowel on at least one side. In both of these cases, deletion is blocked, but the underlying vowel is still reduced to [e] (which did not happen in the cases of [batlan] ~ [batlanim], etc. and [arug] ~ [arugim], etc. as illustrated in (34) and (36) above, respectively). These two constraining environments are illustrated below.

(37)		Masc.Sg.	Fem.Sg.	Masc.Pl.	Fem.Pl.	
	(i)	/ta?im/	/te?ima/	/te?imim/	/te?imot/	'tasty'
			ult: [teima]	[teimim]	[teimot]	
		/tahor/	/tehora/	/tehorim/	/tehorot/	'pure'
			ult: [teora]	[teorim]	[teorot]	
	(ii)	[matun]	[metuna]	[metunim]	[metunot]	'moderate'
		[nadir]	[nedira]	[nedirim]	[nedirot]	'rare'
		[lavan]	[levana]	[levanim]	[levanot]	'white'
		[rakuv]	[rekuva]	[rekuvim]	[rekuvot]	'rotten'
		[yakar]	[yekara]	[yekarim]	[yekarot]	'expensive'

Again it is not clear whether one should: (i) delete /a/ first, and then "correct" inadmissible #C$\{^{?}_{h}$ and #$\left[\begin{smallmatrix}C\\+son\end{smallmatrix}\right]$ C sequences by inserting [e] (and possibly [a] in $\{^{?}_{h}$C sequences, if [arug] ~ [arugim], etc. also undergo deletion); or (ii) reduce all cases of /a/ to [e], regardless of what consonants surround them, and then drop [e] if the environment allows (and lower it to [a] in $\{^{h}_{?}$—C, if /harug/ ~ /harugim/ also undergo reduction); or (iii) delete /a/ directly when the initial consonant is non-sonorant and not a glottal, and separately reduce /a/ to [e] if a #C$\{^{?}_{h}$ or #$\left[\begin{smallmatrix}C\\+son\end{smallmatrix}\right]$C sequence would have been formed had one deleted /a/ in the above forms. Again, the third alternative is the most concrete; the first involves inadmissible intermediate clusters, the second, ones that are non-existent. It should again be noted that the first analysis captures the immediate correspondence of apparently deviant, non-alternating forms to regular forms in the same morphological pattern, for example:

(38) (i) /te?in+a/ 'loading' (ult: [teina]), corresponds to forms like [ktiva] 'writing' or [šmir+a] 'guarding' if underlying /t?in+a/ is assumed;

/dehir+a/ 'galloping' (ult: [deira]), corresponds to [ktiv+a], [šmir+a], etc. if underlying /dhir+a/ is assumed;

[merix+a] 'smearing', [leviš+a] 'wearing', or [redif+a] 'chasing' similarly correspond to [ktiv+a], [šmir+a], etc. if underlying /mrix+a/, /lviš+a/, and /rdif+a/, respectively, are assumed;

(ii) [nekam+a] 'revenge' or [yelal+a] 'wailing' correspond to forms like [ktat+a] 'quarrel', [brax+a] 'blessing', etc. if underlying /nkam+a/ and /ylal+a/, respectively, are assumed.

2.2.7 Spirantization in Modern Hebrew

Describing Spirantization in Biblical Hebrew is relatively straightforward: All of the six non-back stop consonants (i.e., /p/ and /b/, /t/ and /d/, /k/ and /g/, but not /q/ or /ʔ/) alternate with the corresponding spirants post-vocalically, with the exception of geminates, which are "strong" enough to resist lenition. Surface counter-examples like [malxey] 'kings-of', [malxut] 'kingdom', etc., instead of the expected **malkey*, **malkut*, are assumed to have an intervening vowel before the spirant, which is dropped only after Spirantization has applied.

The process of Spirantization in Modern Hebrew is far more complex, and a detailed characterization of what is entailed lies outside the scope of the present survey. Among the factors which complicate the issue in contemporary Hebrew, the following are particularly worth noting – all being the result of the various "losses" or "mergers" of former distinctions noted in Section 2.0 above.

(i) Spirantization no longer applies to all six members of the three pairs of non-back stops, but is confined to the alternations of *p*, *b*, and *k* with the fricatives *f*, *v*, and *x*, respectively. Note that these three sets of stop-spirant alternations cannot be associated with any accepted "natural" phonological class of segments.

(ii) Historical /w/ and /ħ/ have merged with *vet* and *xaf*, respectively (see (1) above), resulting in the introduction of numerous instances of phonetic [v] and [x] in environments other than post-vocalic (e.g.: [vav] 'hook', [véred] 'rose', [exvir] 'become pale', [išva] 'compare'; and [xok] 'law', [xamor] 'donkey', [misxak] 'game', [ticxak] 'you will laugh', respectively). Such occurrences of [v] and [x] might be interpreted on the surface as outputs of Spirantization, hence making the rule "opaque" (in the sense used by Kiparsky 1971), since on the surface it seems to have applied in environments where it should not apply – in turn giving rise to the need to modify the structural description to which the rule of Spirantization may be said to apply synchronically.

(iii) Historical /q/ has merged with /k/, and yet has remained totally unaffected by Spirantization, as shown by such forms as: [kara] '(he)read' ~ [yikra] 'will read'; [kana] 'bought' ~ [yikne] 'will buy'; [dakar] 'stabbed'; [zarak] 'threw'; and so on. This also makes Spirantization opaque for many cases of phonetic [k] now occurring to which the rule does not apply.

(iv) Gemination, which historically blocked Spirantization – as in *dibber* 'spoke', *sipper* 'told', *makkar* 'acquaintance', *tabbax* '(a)cook', *tappil* 'parasite' – is no longer manifested, but Spirantization is still invariably blocked where it used to exist – a circumstance which again renders the rule opaque, in the same sense as does the merging of /q/ with /k/; thus: [diber], [siper], [makar], [tabax], [tapil].

(v) Historical schwas, the purpose of which was to avoid creating (or to break up) disallowed clusters, have disappeared in Modern Hebrew, so that spirants may occur immediately following a consonant. Compare the classical forms in (a) with their contemporary counterparts in (b) below.

(39)	a.	šəfuṭ+a	b. [šfuta]	'judged (Fem)'
		qəvur+im	[kvurim]	'buried (Pl)'
		təxun+a	[txuna]	'preparation'
		śarəf+a	[sarfa]	'she burnt'
		serəv+a	[serva]	'she refused'
		šafəx+u	[šafxu]	'they spilled'

This again causes the rule to be opaque, since on the surface, Spirantization seems to apply where it should not have applied.

A result of such surface opacities has been that contemporary usage deviates from the historical norm in forms not directly covered by (i) through (v) above. In some cases, Spirantization is not applied where expected – in the colloquial usage of most native speakers, in any event. The following examples are taken from Ben-Horin and Bolozky 1972 (the first form in each case being the stem form of the second – see fn. 9):

(40)	[kixev]	~ [mekaxev]	'(he) stars'
	[kifter]	~ [tekafter]	'you will button'
	[kidrer]	~ [lekadrer]	'to dribble, bounce'
	[kiškeš]	~ [mekaškeš]	'(he) wags'
	[bilbel]	~ [mebulbal]	'confused'
	[bizbez]	~ [tebazbez]	'you will waste'

[birber] ~ [lebarber] 'to talk nonsense'
[pitpet] ~ [lepatpet] 'to talk a lot'
[kines] ~ [yekanes] 'he will convene'
[bilef] ~ [lebalef] 'to lie (Slang)'
[kivec] ~ [tekavec] 'you will shrink (Trans)'
[karax] ~ [yikrox] 'he will bind'

Moreover, forms like the following seem to be in free variation in colloquial usage: [lexaven] ~ [lekaven] 'to aim' (cf. [kiven] 'he aimed'); [yixboš] ~ [yikboš] 'he will conquer' (cf. [kavaš] 'he conquered'); [yix(ʔ)av] ~ [yik(ʔ)av] 'he will hurt' (cf. [ka(ʔ)av] 'it hurt'); and so on.

In other cases Spirantization is applied where not expected, that is, after a consonant (one that was **not** followed by a schwa in Biblical Hebrew), to yield for example: [kafac] 'jumped' ~ [yikfoc] 'will jump'; [tafar] 'sewed' ~ [yitfor] 'will sew; [nitfar] 'was sewn'; [tilfen] 'telephoned'. Again, forms like the following seem to be in free variation in colloquial speech:

(41)

Future		cf. Past	
[yišpox]	~ [yišfox]	[šafax]	'spill'
[yispor]	~ [yisfor]	[safar]	'count'
[takpic]	~ [takfic]	[kafac]	'jump'
(Causative)			
[yišbor]	~ [yišvor]	[šavar]	'break'
[yikbor]	~ [yikvor]	[kavar]	'bury'
[yitba]	~ [yitva]	[tava]	'drown'
Infinitive			
[limkor]	~ [limxor]	[maxar]	'sell'
[liskor]	~ [lisxor]	[saxar]	'rent'
Past (Passive)			
[nitpas]	~ [nitfas]	[tafas]	'catch'
[nikbar]	~ [nikvar]	[kavar]	'bury'

That is, the overall picture is one of a state of flux.

One solution is to adopt a strict condition on the scope of phonological rules in Modern Hebrew, that is, that they account only for alternations within an inflectional paradigm (following Barkai 1975). In that case, Spirantization would essentially be confined to the three *binyan*

(verb conjugation) patterns: *kal* (or *paal*) B-2, *piel* B-3, and *pual* B-3_{ps}. It could then be reformulated so as to apply stem-initially after a vowel (Barkai's MBS – Morpheme Boundary Spirantization) in such forms as the following:

(42)

	Past	Present	Future	
paal, B-1:	[patax]	[potéax]	[yiftax]	'open'
	[pašat]	[pošet]	[yifšot]	'take off (clothing)'
	[barax]	[boréax]	[yivrax]	'run away'
	[badak]	[bodek]	[yivdok]	'check'
	[katav]	[kotev]	[yixtov]	'write'
	[karat]	[koret]	[yixrot]	'cut off'
piel, B-3:	[piter]	[mefater]	[yefater]	'fire'
	[pizer]	[mefazer]	[yefazer]	'scatter'
	[bikeš]	[mevakeš]	[yevakeš]	'ask'
	[bitel]	[mevatel]	[yevatel]	'cancel'
	[kibed]	[mexabed]	[yexabed]	'respect'
	[kišef]	[mexašef]	[yexašef]	'cast a spell'
pual, B-3_{ps}:	[putar]	[mefutar]	[yefutar]	'be fired'
	[butal]	[mevutal]	[yevutal]	'be cancelled'
	[kubad]	[mexubad]	[yexubad]	'be respected'

Even this restricting of Spirantization to only three conjugations does not seem to be sufficiently motivated, however. Quite often, whenever there seems to be a tendency for alternation to occur within the same inflectional class, the opposite tendency is also attested – namely, analogizing from one form to another within the same paradigm. Thus the illustrations noted in (40) above indicate just that; i.e., the pressure of analogy may override MBS, so that the Present counterpart of [kitev] is [mekaxev] rather than **mexaxev*, the Future counterpart of [kifter] is [tekafter] rather than **texafter*, and so on. In other words, it is precisely within the paradigm that the rule is lost. It is true, however, that some of these cases may be explained as assimilation of the feature [–Continuant] from the second syllable of a quadriliteral verb – as in [mekaškeš], [lebalbel], [lebazbez], [lepatpet], [lebarber], while others may be explained by analogy to related nouns – for instance:

(43)

[koxav] 'star'	~ [mekaxev] '(he) stars'
[kaftor] 'button'	~ [tekafter] 'you will button'
[kénes] 'convention'	~ [yekanes] 'will convene'
[kérex] 'volume'	~ [yikrox] 'will bind'
[ke(ʔ)ev] 'pain'	~ [yik(ʔ)av] '(it) will hurt'
[télefon] 'telephone'	~ [tilfen] 'phoned'

It is still unclear, then, whether phonological rules in Modern Hebrew should account for intra-paradigm alternations only, or also be allowed to describe relationships between related words in **different** paradigms. If the latter option is adopted, MBS will be extended to other classes of the verb-system, for instance:

(44)

/i+ktiv/	→ [ixtiv] 'dicated', cf. [katav] 'wrote'
/u+ktav/	→ [uxtav] 'was dictated'
/u+pšat/	→ [ufšat] 'was undressed', cf. [pašat] 'took off (clothing)'
/i+briax/	→ [ivríax] 'caused to escape' cf. [barax] 'escaped'
/u+brax/	→ [uvrax] 'was smuggled'

Furthermore, MBS will be extended to quite a few non-verbal forms, such as:

(45)

/mi+ktav/	→ [mixtav] 'letter', cf. [katav] 'wrote'
/mi+bdak/	→ [mivdak] 'test', cf. [badak] 'tested'
/ma+breg/	→ [mavreg] 'screwdriver', cf. [bóreg] 'screw'
/ti+ktov+et/	→ [tixtóvet] 'correspondence', cf. [katav] 'wrote'
/ti+pzor+et]	→ [tifzóret] 'scatter (Noun)', cf. [pizer] '(he) scattered'
/ti+pʔul/	→ [tifʔul] 'operating', cf. [paʔal] 'operated'
/ti+brug/	→ [tivrug] 'cutting screws', cf. [bóreg] 'screw'
/a+kvan+a/	→ [axvana] 'direction', cf. [kiven] 'aimed, directed'
/a+pcac+a/	→ [afcaca] 'bombing', cf. [pcaca] 'bomb'

It should be borne in mind, however, that many forms belonging to the noun classes illustrated in (45) may not have any related forms with stop-realization – e.g., [miftan] 'threshold', [mifrac] 'bay', [mifgan] 'parade', [mixman] 'treasure', [tixnun] 'planning', [tifkud] 'functioning', [avlaga] 'restraint', [afraza] 'exaggeration'. Besides, there are many others that do have related forms with stop-realization, where the lexical connection is so far-fetched that the normal naive speaker is hardly likely to view one as derived from the other. Examples include [mivrak] 'telegram':

[barak] 'lightening'; [mixnas] 'trouser': [nixnas] 'enter'; [afraša] 'secretion': [paraš] 'leave'; [axnasa] 'income': [nixnas] 'enter'; and so on. Thus even if the MBS rule is extended in this way, it cannot apply to **all** realizations of a given class. Which forms it does happen to apply to is determined by the existence or non-existence of related forms, as well as by the individual's awareness of relationships that theoretically or historically may be claimed to exist.

In any case, even if we do not allow MBS to apply beyond the three verb-paradigms illustrated in (42) above, the existence of numerous surface forms in which [f, v, x] occupy the position V+—, but [p, b, k] never do, certainly contributes to the surface transparency of this rule.

Next, note that alternation of [p, b, k] with [f, v, x] within paradigms is also found in another environment – at word-boundary; that is, [p, b, k] at the end of noun and adjective stems are always realized as [f, v, x] word-finally, when not followed by suffixes. Thus:

(46)

[kaf]	'spoon'	~ [kapot] (Pl)	~ [kapit] 'teaspoon'
[tof]	'drum'	~ [tupim] (Pl)	
[rav]	'large'	~ [rabim] (Pl)	
[dov]	'bear'	~ [dubim] (Pl)	
[rax]	'soft'	~ [raka] (Fem)	

The number of forms actually exhibiting this alternation is small, but except for a few borrowed forms like [mikroskop], [teleskop], there exist no surface exceptions to this part of the Spirantization rule – both because one does not find word-final [p, b, k] and because stem-final [f, v, x] normally do not alternate (in the Verb they **never** do). No stop-spirant alternations are found within paradigms in any other environment. Again, however, if relationships across paradigms are considered, a third environment for Spirantization, in addition to the cases of Morpheme-Boundary and Word-Boundary noted above, must be mentioned: where the second element of a word-initial Consonant Cluster is [f], [v], or [x] and not any of the corresponding stops. Compare:

(47)

[sfira] 'counting	~ [mispar] 'number'
[šfutim] 'judged (Pl)'	~ [mišpat] 'trial'
[kvisa] 'laundry'	~ [lexabes] 'to launder'
[svilut] 'endurance'	~ [lisbol] 'to endure'
[txuna] 'preparation'	~ [itkonen] '(he) prepared himself'
[šxenim] 'neighbors'	~ [liškon] 'to live, reside'

This alternation is naturally also the case when [e] or [ə] intervenes, to break (or avoid) inadmissible clusters – as noted in Section 2.2.6 above. Thus: [mexura] 'sold (Fem)'/[limkor] 'to sell'; [levušim] 'dressed (Pl)'/[lilboš] 'wear'; [refu?a] 'medicine'/[nirpa] 'was cured'. Note that this generalization is true of native words only (cf. [špric] 'squirt', [sprey], [skandal], etc.); however, the almost total absence of surface counter-examples makes this rule, if it is one, quite transparent.

One more environment should be noted with respect to spirantization: word-initial position is normally occupied by stops [p, b, k] rather than by the corresponding spirants Children sometimes have variations like: [ktiva] ~ [xtiva] 'writing'; [ptax] ~ [ftax] 'open up!', but many adults seem to actually apply at least a [f] → [p] shift in word-initial position, to yield such loan-word pronunciations as: *festival* → [pestival], *filosofya* → [pilosófya], *fantom* → [pántom]. Such cases are not standard usage, but they are heard. Exceptions like the slang loan-word [fibrek] '(he) invented, fabricated' (which never becomes *[pibrek]) may be attributed to avoidance of a *[#pb] sequence.

In summary, it seems that the process of Spirantization, complicated by historical mergers and other losses, on the one hand, and by a variety of differently conditioned performance factors, on the other, is in such a state of flux as to make any straightforward, all-inclusive statement quite unfeasible. Evidently, either spirants or stops may still be predominant in one environment or another, but as pointed out above, such distributional statements are remnants of historical processes which are no longer phonetically conditioned.

2.3 PHONETIC CONSTRAINTS AND RELATED RULES

Next we consider a few general constraints on surface sequences in Modern Hebrew – and related phonological rules which either enforce these constraints by breaking inadmissible clusters or are subject to them when they (the surface phonetic constraints) function as derivational constraints (that is, do not apply if an inadmissible cluster would be formed in the process).

2.3.1 The Class of Low "Gutturals"

Biblical Hebrew had four [+low] phonemes: two pharyngeal fricatives, /ħ/, /ʕ/, a glottal stop /ʔ/, and a glottal fricative /h/ – tradition-

ally termed "gutturals." Gutturals could not be geminated, which normally resulted in compensatory lengthening and lowering of the preceding vowel – obligatorily before /ʔ/, for instance in /teʔer/ 'describe' vs. /dibber/ 'speak'; often before /ʕ/ and /h/, as in /məšoʕar/ 'assumed' and /məzoham/ 'dirty' vs. /mədubbar/ 'spoken'; and occasionally before /ħ/, as seen from examples like /niħeš/ 'guess' vs. /dibber/ 'speak'. Biblical /r/ behaved just like /ʔ/ in this respect, as in /berex/ 'bless' vs. /dibber/, but participated in none of the other processes noted below, so that synchronic discussion of /r/ as a "guttural-like" element is largely irrelevant.[13]

The glottal stop /ʔ/ could never close a syllable. Thus: /maṣaʔ/ → [maṣa] 'he found'; /maṣaʔ+ti/ → [maṣáti] 'I found'. Moreover, none of the four could occur immediately before a syllable-final consonant, thus: /naʕr/ → [náʕar] 'boy'; /šaħr/ → [šáħar] 'dawn'; /toʔr/ → [tóʔar] 'appearance'; /ṭohr/ → [tóhar] 'purity'. All four segments had /a/ follow them where the underlying vowel was supposed to be reduced to schwa; thus (all forms representing Biblical Hebrew):

(48) /noʕel+im/ → [noʕalim] '(they) lock',
cf. [noθen] ~ [noθənim] 'give'
/śiħeq+u/ → [siħaqu] 'they played',
cf. [dibber] ~ [dibbəru] 'spoke'
/hit+paʔer+u/ → [hiθpaʔaru] 'they bragged',
cf. [hiθpallel] ~ [hiθpalləlu] 'prayed'
/tit+nahel+i/ → [tiθnahali] 'you(Fem) will walk',
cf. [tiθnakker] ~ [tiθnakkəri] 'will be alien'
/harus+a/ → [harusa] 'destroyed (Fem)',
cf. [tafus] ~ [təfusa] 'taken'
/ʕašir+ot/ → [ʕaširoθ] 'rich (Fem,Pl)',
cf. [zariz] ~ [zərizoθ] 'nimble'

When a stem-initial low consonant was supposed to close a syllable, the regular raising of the prefix vowel /a/ to [i] was blocked, or alternatively /a/ was raised to [e] only, and a copy of the prefix vowel (/a/ or /e/) was inserted between the low segment and the following consonant – obligatorily after /ʔ/ and /ʕ/, normally after /h/, and optionally after /ħ/.[14] Thus:

(49) /ta+ʕbod/ → [taʕavoð] 'you will work',
cf. /ta+ktob/ → [ti+xtov] 'you will write'
/ta+ʔsof/ → [teʔesof] 'you will gather', cf. [tixtov]
/ta+hrog/ → [taharog] and rarer [tahrog] 'you will kill'
cf. [tixtov]
/ta+ħšov/ → [taħašov] ~ [taħšov] 'you will think',
cf. [tixtov]
/na+ʕzav/ → [neʕezav] 'was neglected',
cf. /na+ktab/ → [nixtav] 'was written'
/ha+ʔmin/ → [heʔemin] 'believed', cf. [hizmin] 'ordered'
/ma+ʕrav/ → [maʕarav] 'west', cf. [mizraħ] 'east'
/ma+ʕle/ → [maʕale] 'rise', cf. [miqre] 'happening, incident'

Word-final /ʕ/, /ħ/, /h/ were not deleted, as was /ʔ/, but if preceded by a vowel other than /a/, the latter – the only low vowel in Hebrew – was inserted before them, as follows.

(50)

Masc.Sg.		cf. Masc.Pl.	
/śaweʕ/	→ [śawéaʕ]	[śəweʕim]	'satisfied'
/šaliħ/	→ [šalíaħ]	[šəliħim]	'messenger'
/tamuh/	→ [tamúah]	[təmuhim]	'puzzling'
/gavoh/	→ [gavóah]	[gəvohim]	'tall'

As noted earlier, in Modern Hebrew, /ħ/ has merged with /x/, while /ʕ/ and, quite often, /h/, has merged with [ʔ]; moreover [ʔ] – both historical and "merged" – and sometimes [h] are found only before stressed vowels, and even then only optionally.

One result is that historical /ħ/ often behaves like the phonetic [x] to which it is identical – as a non-low segment. Thus, the prefix vowel before historical /ħ/ is optionally raised to [i], as in [exzik] ~ [ixzik] 'held'; [exlit] ~ [ixlit] 'decided'. Moreover, the optional copy of the prefix vowel is now restricted to formal or literary style, in such forms as [taxšov] 'you will think', rarely [taxašov]; [hexzik] 'he held', rarely [hexezik].

Thirdly, historical /ħ/ is normally not followed by [a] where historically reduction to [ə] should have taken place. Compare:

(51) /yi+cxak+u/ → [yicxeku] ~ [yicxaku] 'they will laugh'
/sixek+a/ → [sixka], rarely [sixaka] 'she played'
/maxak+u/ → [maxku], rarely [maxaku] 'they erased'

Furthermore, replacement of a stem-final /o/ in Future forms of the

paal verb conjugation by [a] after former /ħ/ is no longer obligatory; instead, we find variations like: [yidxaf] ~ [yidxof] 'will push'; [yivxan] ~ [yivxon] 'will test'.

Insertion of [a] before word-final former /ħ/ still takes place, but children sometimes make the mistake of extending it to historical [x] as well, yielding: /nošex/ → [nošéax] 'bite'; /le+afrix/ → [leafríax] 'to refute'. This is also true of historical xC# sequences, which are often analogized with historical ħC# sequences, in colloquial (not necessarily substandard) speech, thus: [somáxat] instead of [soméxet] '(she)depends'; [oráxat#din] instead of [oréxet#din] 'female lawyer'. Certain aspects of the behavior of historical /ħ/ will still have to be taken care of synchronically – the insertion of [a] when former /ħ/ occurs in word-final position after a non-low vowel, and remnants of other historical phonetically-conditioned processes. But the fact that raising does often apply to the vowel preceding a former /ħ/ and that processes introducing [a] in its environment are being lost may suggest that these aspects of the behavior of former /ħ/ should probably no longer be attributed to its being underlyingly low synchronically.

As explained above, historical /ʕ/ and often /h/ have merged with /ʔ/, with the latter two optionally realized on the surface only before stressed vowels. Pattern similarity and other factors suggest that underlying representations still contain some consonant in probably almost any position previously occupied by historical /ʕ/, /h/, and /ʔ/. The optional realization of [ʔ] and [h] obviously indicates that /ʔ/ and former /ʕ/ should both be represented as /ʔ/ synchronically and historical /h/ as /h/. The surface constraint shows, however, that Modern Hebrew [ʔ] and [h] function essentially as on-glides to stressed vowels.

One way of enforcing the phonetic constraint on glottal glides is by deleting /ʔ/ and /h/ in preconsonantal or word-final position as shown below:

(52) /maca?+ti/ → [macá+ti] 'I found',
vs. [mac?+a] 'she found'
/maca?/ → [maca] 'he found'
/gavah+ti/ → [gavá+ti] 'I grew taller',
vs. [gavh+a] 'she grew taller'
/gavah/ → [gava] 'he grew taller'
/bari?/ → [bari] 'healthy',
vs. [bri?+im] 'healthy (Pl)'
/kafu?/ → [kafu] 'frozen',
vs. [kfu?+a] 'frozen (Fem)'

Another way is by replacing a word-final /h/ or /ʔ/ that originated from historical /ʕ/ by the vowel [a], thus:

(53) /gavoh/ → [gavóa] 'tall', cf. [gvoh+ot] (Fem,Pl)
/pacuʔ/ → [pacúa] 'wounded', cf. [pcuʔ+im] (Pl)
/šomeʔ/ → [soméa] '(he) hears', cf. [šomʔ+im] (Pl)

Children sometimes extend the latter process to cover cases normally belonging to the former class to yield, for instance: /kafuʔ/ (normally [kafu]) → [kafúa] 'frozen'; /moceʔ/ (normally [moce]) → [mocéa] '(he) finds'; or they may even replace the glottal glide by a semi-vocalic off-glide: /kafuʔ/ → [kafuy]. But normally cases of /ʔ/ from historical *alef* do not undergo this /ʔ/ → [a] rule. It is often claimed that this exclusion of /ʔ/ from historical *alef* requires underlying /ʕ/. It is hard to show, however, how this would significantly differ from assuming two types of /ʔ/, one undergoing the rule and one not undergoing it, just as there are two types of /k/, one which undergoes Spirantization and another which does not.

Corresponding forms without glottal segments often suggest that had /ʔ/ or /h/ not been glottal, they would have been immediately followed by a consonant, functioning as off-glides to the preceding syllable. In such cases, if the stem-initial glide is preceded by either an inflectional or a derivational prefix, /ʔ/ and /h/ are followed by a copy of the prefix vowel, but the underlying glottal glide is always deleted, since the echo-vowel is never stressed:

(54) /ta+ʔavod/ → [taavod] 'you will work',
cf. [ti+kšor] 'you will tie'. The prefix [i] is replaced by [a] by a morphological rule that captures the historical blocking of raising discussed here.

/ne+ʔemad/ → [neemad] 'he stood up',
cf. [ni+škav] 'he lay down'. Here [i] is replaced by [e], again a remnant of the historical partial raising to [e].

/ne+herag/ → [neerag] 'he got killed',
cf. [ni+rcax] 'he got murdered'

/he+ʔemid/ → [eemid] 'he stood up (Trans)',
cf. [iškiv] 'he laid down'

/ta+ʔanug/ → [taanug] 'pleasure',
cf. [ti+skul] 'frustration'

/ma+hapex+a/ → [maapexa] 'revolution',
cf. [ma+xšel+a] 'misgovernment'

When corresponding forms without glottal glides indicate that had /ʔ/ and /h/ not been glottal, they would have been followed by a consonant but not preceded by a prefix, it is invariably [a] that is found in between. Again, the underlying glottal glide is always deleted, since this [a] is never stressed:

(55) /ʔamid+a/ → [amida] 'standing',
cf. [ktiv+a] 'writing'
/harig+a/ → [ariga] 'killing',
cf. [ktiv+a] 'writing'
/šoʔal+im/ → [šoalim] '(they)ask' ~ [šoʔel] '(he) asks',
cf. [kotv+im] '(they) write' ~ [kotev] '(he) writes'
/me+nahal+im/ → [menaalim] '(they)manage' ~ [me+nahel] '(he)manages', cf. [me+dabr+im] '(they)talk' ~ [me+daber] '(he)talks'
/ʔazuv+a/ → [azuva] 'neglected (Fem)' ~ /ʔazuv/ → [azuv] 'neglected (Masc)', cf. [švur+a] 'broken (Fem)' ~ [šavur] 'broken (Masc)'
/ʔašir+ot/ → [aširot] 'rich (Fem,Pl)' ~ /ʔašir/ → [asir] 'rich (Masc)', cf. [zriz+ot] 'nimble (Fem,Pl)' ~ [zariz] 'nimble (Masc)'

When pattern similarity indicates that /ʔ/ or /h/ should have been immediately preceded by a word-initial consonant had they not been glottal, [e] intervenes. Once more, since in such cases the following vowel is never stressed, the underlying glottals do not show up on the surface in this position:

(56) /teʔuf+a/ → [teufa] 'aviation', cf. [t+rum+a] 'contribution'
/šeʔel+a/ → [šeela] 'question', cf. [sref+a] 'fire'
/geʔon+im/ → [geonim] 'geniuses' ~ [gaʔon] (Sg),
cf. [šxor+im] 'black (Pl)' ~ [šaxor] (Sg)
/tehor+im/ → [teorim] 'pure (Pl)' ~ [tahor] (Sg),
cf. [šxor+im] ~ [šaxor]

The presence (or avoidance of deletion) of a vowel between a word-initial consonant and a glottal /ʔ/ or /h/ seems to indicate that a separate restriction is necessary on a sequence of word-initial consonant plus glottal; the requirement that the vowel following the glottal glide be stressed can only explain the subsequent dropping of the glide. A restriction on initial consonant plus glottal sequence, however, is probably

more of a morphologized historical remnant than an actual phonetic constraint on surface sequences. At the phonetic level, if the following vowel is stressed, such strings are acceptable as, for example, in the Imperative forms [ʂʔal] 'ask' and [tʔan] 'load'. The only phonetic constraint that glottal glides are subject to, then, is that they be followed by a stressed vowel.

Phonetically, the requirement that Modern Hebrew glottals function only as glides to vowels can be explained by the fact that the release of sub-glottal pressure involved in the formation of a glottal is most naturally followed by free flow through the glottis – that is, a vowel. The additional requirement that the vowel following the glottal be stressed is supported by the glottal often serving as "simply a hard beginning to the vowel sound for the purpose of emphasis" (O'Connor 1973, 40), that is, a glottal glide is a natural start for a stressed vowel (O'Connor reports emphatic [ʔímpækt], [ʔénvi], etc. in British English). Skousen's description (1971) of optional *h*-Deletion in English indicates that /h/ is obligatorily retained before stressed vowels.

Note that in some respects, rules which historically applied to /ʔ/ and /h/ are better preserved than those that once applied to historical /ħ/; *a*–Formation (see (48) above), Lowering and Copying (see (49)), for instance, still need to be accounted for (although not necessarily in the same way as they are described diachronically), whereas in the case of former /ħ/, insertion of [a] is becoming quite rare, as we see from [sixka], etc. in (51) above, and so are Lowering and Copy, as in [exzik], [exlit], and [taxšov] above. The reason for this, it seems, is that whereas /ħ/ is totally merged with [x], and is thus opaque, underlying glottal glides can always be recoverable even when realized as zero: before word-initial vowels and intervocalically, and sometimes by means of alternants in which a glottal is realized before a stressed vowel, for instance /matʔamim/ 'delicacies' is recoverable from [matamim] because of the realization of the glottal stop in [matʔam] 'delicacy'. It seems, then, that the glottal glides of Modern Hebrew, though normally realized as null, are not as opaque as their non-realization seems to indicate.

2.3.2 The Class of Sonorant Consonants

As was noted in Section 2.2.6 in connection with the deletion of /a/ in non-verbal forms, in Hebrew, sonorant consonants must be flanked by a vowel on at least one side. Compare for instance the alternation in (i) and (ii) below:

(57) (i) [katuv] 'written' ~ [ktuvim] (Pl)
[katan] 'small' ~ [ktana] (Fem)
(ii) [matun] 'moderate' ~[metunim] (Pl)
[lavan] 'white' ~ [levana] (Fem)

Non-alternating forms, like [leviša] 'wearing', [nekama] 'revenge', etc., can be shown to correspond in phonological pattern to [ktiva] 'writing', [ktata] 'quarrel', respectively, the intervening [e] only functioning to enforce the constraint.

It is difficult to explain this constraint without reference to syllable-structure. Sonorant consonants are the closest to vowels in sonority and are the weakest in terms of consonant "strength."[15] When the bordering segments are a consonant on each side, or a consonant on one side and a syllable-boundary on the other, or a syllable-boundary on each side, the gradual increase or decrease in "strength" (or sonority) is broken (Bolozky 1972a,b). Since Hebrew has no syllabic liquids or nasals, a sonorant consonant cannot become the nucleus of a separate syllable and thus must ascend to, or descend from, a vowel. Thus, for instance, a borrowed $C\left[\begin{smallmatrix}C\\+son\end{smallmatrix}\right]\#$ sequence is broken by [e] (or sometimes [i]):

(58) *fílm* → /fílem/ (or /fílim/) 'film'
spéšl → /spéšel/ 'special'
hércl → /hércel/ 'Herzl'
línkoln → /línkolen/ 'Lincoln'

Since in ordinary (non-fast) speech, word-boundaries usually coincide with syllable-boundaries, word-final and word-initial positions can normally be assumed to also constitute syllable-final and syllable-initial boundaries.

One environment where this is not the case – that is, where syllable boundaries do not necessarily coincide with word-boundaries even in normal speech – is when the definite article or some bound preposition is attached to a noun-stem. In such cases, the [e] which prevents the formation of a $\#\left[\begin{smallmatrix}C\\+son\end{smallmatrix}\right]C$ cluster may optionally be deleted (even in normal speech), as in:

(59) [a#yeladim] ~ [ayladim] 'the children' (see fn. 10)
[be#yerida] ~ [beyrida][16] 'in descent'
[ba#mesiba] ~ [bamsiba] 'at the party'
[a#levanim] ~ [alvanim] 'the white ones'

This suggests that the criterion for where a sonorant consonant is disallowed is dependent on syllable-boundaries rather than on word-boundaries. A word-boundary may coincide with a syllable-boundary, but if it does not, it may be disregarded. The deletion of [e] above is possible because the $\$\left[\begin{smallmatrix}C\\+son\end{smallmatrix}\right]C$ sequence (where $ stands for syllable-boundary) that might have resulted is obviated by resyllabification of [ayela$dim], [ba$mesiba], etc. into [ayladim], [bamsiba], etc.

The relevance of syllable-boundaries for our constraint is even more obvious in fast speech, where word-boundaries are often ignored. The deletion of [e] in normal speech as noted above appears to be an extension of a more general, independently-motivated process which optionally deletes the neutral vowel [e]/[ə] (as noted earlier, most speakers do not distinguish between the two) when the result contributes to a preferred fast-speech sequence of stressed and unstressed syllables rhythmically alternating. For instance:

(60) [telaméd##otí] ~ [tlamédotí] 'teach me'
[tekabél##makót] ~ [tkabélmakót] 'you'll be spanked'
[i##košéret##otí] ~ [ikošértotí] 'she ties me'
[ʔéyfo##amaxbéret##šeli] ~ [ʔéyfoamaxbértšeli]
'where is my notebook'

Note that if two stresses were to become adjacent in the process, deletion would be blocked; so that from [atá##mevín##otí] 'you understand me' we do not get *[atámvínotí] unless the first stress shifts to the left, to yield [átamvínotí], or, alternatively, the initial /a/ is deleted and the remaining one loses its stress, yielding the most elliptic form of all: [tamvínotí]. The same is true in the case of the following borrowed form: [amèrikái] ~ [àmrikái] 'American', which probably indicates that even secondarily-stressed /e/ may be deleted if the resulting sequence of stressed syllables rhythmically alternates with unstressed ones.

This fast-speech rule also applies to the /e/ which would normally prevent formation $\#\left[\begin{smallmatrix}C\\+son\end{smallmatrix}\right]C$ clusters. Compare:

(61) [šloší́##yeladím] ~ [šlošáyladím] 'three children'
[í##metuná##yotér] ~ [ímtunáyotér] 'she is more moderate'
[natáti##lá##nešiká] ~ [natátilanšiká] 'I gave her a kiss'

As in the case of [ayladim] in (59) above, deletion of [e] is allowed since resyllabification applies across word-boundaries, yielding [šlo$šáy$la$dím], [na$tátilan$ši$ká], etc.

On the other hand, if the previous word ends with a consonant, or the $\$\left[\begin{smallmatrix}C\\+son\end{smallmatrix}\right]eC$ syllable is utterance-initial, application of fast-speech *e*-Deletion is obligatorily blocked in such forms as the following: (where ‖ stands for utterance boundary):

(62) [‖yeladím] 'children'
[šlošímyeladím] 'thirty children'
[átmetunáyotér] 'you(Fem) are more moderate'
[natátiláxnešiká] 'I gave you(Fem) a kiss'

since deletion of /e/ can only place the sonorant between a syllable boundary and another consonant. We see then, that whether we are dealing with normal or fast speech, a sonorant consonant must be flanked by a vowel on at least one side, a constraint which may disregard word-boundaries but must consider syllable boundaries.

2.3.3 Consonant Gemination

Under this heading, we consider two constraints on consonant gemination: a) within stems, and b) tautosyllabic sequences.

a) In discussing deletion of non-high pre-tonic vowels in the verb-system (Section 2.2.5a), we noted that it was necessary to assume a constraint on geminate sequences, in order to capture the correspondence between "deviant" forms such as those in (a) and their regular counterparts in (b) below – both in the case of forms which alternate, as in (i), and in non-alternating forms, as in (ii):

(63) (i) a. [xagag] 'he celebrated' ~ [xagega] 'she celebrated'
[xitet] 'he bored' ~ [xitetu] 'they bored'
b. [katav] 'he wrote' ~ [katva] 'she wrote'
[diber] 'he talked' ~ [dibru] 'they talked'

(ii) a. [zalelan] 'glutton' b. [kamcan] 'miser'
[noxexut] 'presence' [soxnut] 'agency'

It should be noted, however, that this restriction on geminates applies within stems only, since Hebrew allows a sequence of two identical consonants to arise by affixation:

(64) [dán+nu] 'we discussed' [yašán+nu] 'we slept'
[lán+nu] 'we spent the night' [ratán+nu] 'we grumbled'
[it+tamen] 'he pretended to be naive'

/it+darder/ → [id+darder] (by assimilation) 'he deteriorated'
/it+daber/ → [id+daber] (by assimilation) 'he negotiated'

Geminates resulting from *t*-initial suffixes are often broken by an epenthetic [e], but are also perfectly acceptable without such epenthesis taking place; thus:

(65) [šavát+ti] ~ [šavát+eti] 'I was on strike'
/avad+ti/ → [avát+ti] ~ [avád+eti] 'I worked'
[kišát+ta] ~ [kišát+eta] 'you decorated'
/orad+tem/ → [orát+tem] ~ [orád+etem] 'you(Pl) removed'

The reason for the constraint being limited in scope to stems only is probably semantic: In a sequence of two identical consonants, one element tends to be more weakly perceived, and it may be that the resistance to letting a stem-consonant weaken is stronger than the resistance to letting it happen to an affix-consonant, which is often less essential semantically.

b) Consider, next, the case of gemination in tautosyllabic sequences. The constraint on geminates within the stem noted above is restricted to normal slow speech. Thus, optional fast-speech deletion does work on sequences of identical stem-consonants separated by [e] as in (i) and (ii) below:

(66) (i) [xagega] ~ [xagga] 'she celebrated'
[xitetu] ~ [xittu] 'they bored'
[titpaleli] ~ [titpalli] 'you(Fem) will pray'
[zalelan] ~ [zallan] 'glutton'
[noxexut] ~ [noxxut] 'presence'
(ii) [melafefon] ~ [melaffon] 'cucumber'
[šnórerim] ~ [šnórrim] 'bums'

Fast-speech *e*-Deletion is not unconstrained, however. As noted before, it may apply to forms such as [telamed] 'you will teach', [tekabel] 'you will get', etc. yielding variants like [tlamed] and [tkabel], respectively. On the other hand, words like [tedaber] 'you will talk' and [tetapel] 'you will tend' are never realized as *[tdaber] (or *[ddaber]) and *[ttapel], respectively, in utterance-initial position. The only thing that may happen in these environments is deletion of the whole syllable, to yield: [daber], [tapel]. Also, fast-speech *e*-Deletion applies to forms containing the

prepositional prefix [be-] in utterance-initial position, but is blocked if the noun begins with a homorganic stop, as in (i) and (ii) below, respectively:

(67) (i) [be#kol##makom] ~ [bkolmakom][17] 'everywhere'
([pkolmakom] after voicing assimilation)
[be##dira] ~ [bdira] 'in an apartment'
(ii) [bebókerexad] 'on one morning', never *[bbokerexad]

It is not difficult to see that fast-speech variants like [xagga], [xittu], etc. are possible because syllable division breaks up the geminate sequence in between: [xag$ga], [xit$tu], etc. In other cases, like [$tedaber], deletion of the [e] will bring about a **tautosyllabic** geminate, and this is unacceptable. In other words, in fast speech, the constraint is not on identical consonants within the stem, but rather on any tautosyllabic sequence of identical consonants.

A closer look suggests that the constraint on tautosyllabic geminates is never violated in normal speech either, and that there are some normal-speech cases that seem to "positively" enforce it – cases which cannot be accounted for by the restriction on stem-geminates. Thus, in syllable-initial position, /t+cug+a/ 'exhibit' (cf. [t+rum+a] 'contribution') may be realized either as [tecuga] or [cuga], never *[tcuga] (the prefix and the initial stage of the affricate, being adjacent, would have formed a long *t*). In syllable-final position, this constraint explains why /avad+t/ 'you(Fem) worked' is usually realized as [avádet], and sometimes as [avat], but very rarely as [avatt]. (The fact that [avatt] is not completely rejected does suggest, however, that the constraint is stronger in syllable-initial than in syllable-final position.) The constraint on tautosyllabic geminates, unlike the one on stem-geminates, thus applies throughout the language. It is perhaps worth noting that although Biblical Hebrew did allow stem-geminates in the underlying representation, the constraint on tautosyllabic geminates was in fact maintained; these underlying geminates have always been analyzed as a sequence of two identical consonants with a syllable boundary in between.

2.4 ASSIGNMENT OF WORD-STRESS

For our purposes here, Hebrew word-stress is phonologically either primary or non-primary, and all syllables can thus be characterized in terms of a dichotomous [+stress] or [-stress] specification. Phonetically, one can distinguish **degrees** of stress, primarily in more formal style, which

may sometimes be quite highly inflected – but this will not be treated in the present context.

In the discussion which follows, we consider first the assignment of main stress to native Hebrew words (Sections 2.4.1 to 2.4.4) and then to borrowed nouns and adjectives (2.4.5). With respect to words of native origin, stress is either word-final (traditionally *milra*, literally 'from under') or penultimate (*milel* 'from above'). In general, stress is always assigned to the word-final syllable, except for the so-called "segolate" class of nouns (2.4.1), a few environments in the verb system (2.4.2), a group of items influenced by Yiddish stress (2.4.3), some words in child speech (2.4.4), and a few other isolated examples that will not be examined here.[18]

2.4.1 Stress in the "Segolate" Class of Nouns

The segolates are a class of nouns which historically had stems of the CaCC, CiCC, and CoCC (actually CuCC) types. At some point in the history of Hebrew, the final CC cluster was broken by insertion of [ɛ] in each of these types, but the stress remained on the preceding vowel when no suffix followed.

Penultimate stress is still common to all (unaffixed) segolates in Modern Hebrew. Of three historical classes, illustrated in (68), two seem to have merged, as shown by the two columns in (i):

(68) (i)

[kélev]	'dog'	[séfer]	'book'
[mélex]	'king'	[šémeš]	'sun'
[néfeš]	'soul'	[dégel]	'flag'
[dérex]	'way'	[pésel]	'statue'
[régel]	'leg'	[béged]	'article of clothing'

(ii)

[xódeš]	'month'
[bóker]	'morning'
[kótel]	'wall'
[bóreg]	'screw'
[gódel]	'size'

In fact, however, there still exist alternations with suffixed forms which suggest that the historical classification needs to be maintained, as evidenced by the three distinct sets of alternations shown below:

(69) (i) [kélev] 'dog' ~ [kalb+á] 'bitch' ~ [kalb+ón] 'small dog'
[mélex] 'king' ~ [malk+á] 'queen' ~ [malx+út] 'kingdom'
[néfeš] 'soul' ~ [nafš+í] 'of the soul'

(ii) [séfer] 'book' ~ [sifr+iyá] 'library'
~ [sifr+ón] 'booklet' ~ [sifrút] 'literature'
[šémeš] 'sun' ~ [šimš+iyá] 'parasol'
[dégel] 'flag' ~ [digl+ón] 'pennant'
[pésel] 'statue' ~ [pisl+ón] 'statuette'

(iii) [xódeš] 'month' ~ [xodš+í] 'monthly' ~ [xodšá(y)im]
[kótel] 'wall' ~ [kotl+é(y)] 'walls-of' 'two months'
[gódel] 'size' ~ [godló] 'his size'

It is possible, then, to represent segolates underlyingly as CVCC sequences, which means that they would not necessarily need a separate sub-rule to assign penultimate stress to their unsuffixed forms. They can be handled in such a way that the final [e] will be inserted only after stress has been assigned to the final vowel by the main part of the stress rule. Thus, [kélev], [séfer], [xódeš], etc. will be represented as /kalb#/, /sifr#/, /xodš#/, respectively, and stress will be assigned where it shows up on the surface. Afterwards, the final clusters will be broken by [e], and some ad hoc copying rule will change underlying /a/ to [e] in /kaleb/ and /i/ to [e] in /sifer/.

There are problems with such an analysis, since the plurals of forms like [kélev], [séfer], and [bóker] are realized as CCaC+im, not *CaCC+im, i.e., [klavim], [sfarim], and [bkarim], respectively. Note that the plural of [xódeš] is [xodašim]. The [o] in [xodašim], historically probably blocked from undergoing deletion because of a word-initial /ħ/ (today [x]), may be taken as evidence for *a*-Insertion in {CVC—C+*im*} sequences: /kalavim/, /sifarim/, /xodašim/. Later, one may claim, the first vowel is deleted in the first two, but not in the third, since there cannot be a $\left[\begin{smallmatrix} C \\ +\ \text{low} \end{smallmatrix}\right]C$ sequence. There is very little support, however, for a general vowel-deletion rule in the environment {C—CVC+VC#}. Synchronic evidence is available only for the deletion of /a/, not any vowel, in that position; and the segolate deletion rule is doomed to be an ad hoc rule applying in a {C—CaC+*im*} environment only where the stem-final /a/ has been inserted by the Segolate Insertion rule[19] – or rather in ...-im/-ot, if we want singular/plural alternations like [simla] 'dress' ~ [smalot] 'dresses', [sifra] 'digit' ~ [sfarot] 'digits', etc. to be taken as manifestations of the same rule. It seems that they should be, because

they show the same stem-alternation from singular to plural that /sifr/ ~ [sfarim] and /kalb/ ~ [klavim] do. But then why is it that neither insertion nor deletion ever apply to [kalbot], [malkot], etc., which are the plural forms of [kalba] and [malka], respectively? It looks as if the above insertion and subsequent deletion have to be restricted to [+im#], and to [+ot#] when appended to the pattern CiCCa, that is, forms like [simla] and [sifra]. Another problem is how to change the /a/ in /kalb/, etc. to [e] (to get [kélev]) without doing the same to /xoďš/, /bokr/, etc. (where we wish to derive [xódeš], [bóker]).

Some tri-syllabic words also seem to be segolates, that is, they end with CeC# and carry penultimate stress. These occur among Feminine Singular Present-Tense *benoni* forms (which sometimes also function as agent or instrument nouns – see Section 11.3), e.g.: [košéret] 'tie', [nikšéret] 'be tied', [mekašéret] 'connect', [mekušéret] 'be connected', [mitkašéret] 'get in touch', [mukdémet] 'be early', etc. Obviously, they would be represented as /košer+t/, /nikšer+t/, etc. Notice, however, that a representation like /nikšer+t/ should in fact have taken the form /nikšar+t/ had we required a unique representation for all forms in the *nifal* (*ni*+CCaC) B-2 conjugation pattern to which [nikšéret] belongs. But there exists another form, [nikšart] 'you(Fem) were tied', where /a/ must remain [a] and not change to [e] as required for /nikšar+t/ → nikšaret → [nikšéret]. So either we assume a separate /nikšer+t/ and have more than one stem underlying this particular conjugation, or the whole idea of underlying ...VC+C# for ...VC+eC# should be abandoned. Notice an additional complication with nouns like [mištara] 'police', [memšala] 'government, etc. vs. nouns like [misgéret] 'frame', [miktéret] 'pipe', [maskóret] 'salary', etc. The former two have "bound" genitive or construct-state variants (see Chapter Seven) in the form [mištéret], [memšélet] (e.g., *mištéret yerušalâim* 'the Jerusalem police', or *memšélet bubot* 'puppet government'); the latter do not – that is, their construct-state or "bound" genitive form is identical to the one in isolation. Nouns like [misgéret], [miktéret], etc. can always be represented as /misger+t/, /mikter+t/, etc., but nouns like [mištara] just cannot be represented in a unique way: we must have /mištar+a/ or /mištar+at/ for the form in isolation and /mišter+t/ or /mištar+t/ for the construct-state if we want to predict the penultimate stress in the latter.

In view of difficulties such as these, one could revise the initial approach in one of two ways:

1) Sacrifice uniqueness of representation in order to preserve the claim that segolates really do not constitute exceptions to the stress rule. In that case, [kélev] can still be represented as underlying /kalb/ (or /kalv/, or /kelv/), but there would be a general pattern for segolate plurals, CCaC+$\{^{\text{im}}_{\text{ot}}$, or a separate /klav/ stem. Similarly, /mištar+a(t)/ and /mišter+t/ would exist side by side. The primary motivation for this procedure would be the existence of related forms, like [kalba], [kalbon], etc., that would justify a stem like /kalb/.

2) Alternations like [kélev] ~ [kalba] still exist, but the examples above were selected from hundreds and hundreds of existing segolates, many of which do not have CaCC, CiCC, or CoCC alternations – at least not in colloquial usage. Take a noun like [délet] 'door'. Alternations involving personal possessive suffixes, like [dalti] 'my door', [daltexa] 'your door', etc., are virtually never used in spoken Hebrew today, being restricted mainly to literary contexts and possibly some kinship terms, such as [iša] 'wife' ~ [ištexa] 'your wife', [axot] 'sister' ~ [axotxa] 'your sister', etc. (see discussion in Section 7.1). Another possible alternation, the construct-state [daltot] 'the doors of', e.g., [daltót##abá(y)it] 'the-doors-of the-house', is also confined to literary style. The same applies to a considerable number of segolates, such as:

(70)

[šéten]	'urine'	[déreg]	'echelon'	[téred]	'spinach'
[téfer]	'seam'	[zérem]	'current'	[rótev]	'sauce'
[bérez]	'faucet'	[tóren]	'mast'	[gézer]	'carrot'
[péger]	'carcass'	[bóker]	'morning'	[zéfet]	'tar'
[xóšex]	'darkness'	[délek]	'fuel'	[xóken]	'enema'

Notice that in relatively recent coinages such alternations occur only rarely; cases like [ségel] 'staff', [récef] 'continuity', [kécer] 'shortcircuit', etc. never have CaCC+ ... realization. So one could argue against the first alternative above, that the whole attempt to extend the application of final stress to the segolates is vacuous, and that this is a vacuous extension of a particularly bad nature, since the rule that breaks the final cluster after the application of stress has no independent motivation. What one can do, then, is associate application of penultimate stress with ...CeCeC# or ...CoCeC# in the noun system only,[20] that is, assign penultimate stress in the environment $\left[\begin{smallmatrix}\text{-high}\\ \text{-low}\end{smallmatrix}\right]$ CeC#]$_N$. This environment will have to exclude *benoni* (Present Tense) verbal forms that are some-

times used as nouns, e.g., [šomer] '(a) guard' or 'is guarding', and nouns that originated from verbs (see Section 11.3), which, even though no longer functioning as verbs, phonologically still behave like verbs, e.g., [šoter] 'policeman', /šoter+im/ → [šotrim] 'policemen', just like /košer+im/ → [košrim] '(they) tie' (nouns normally do not delete a stem-final vowel). The difficulty is, however, that it is precisely the feminine counterparts of forms like [šomer] and [šoter] ([šoméret] and [šotéret], respectively) that do require application of segolate stress to account for their penultimate stress. A possible solution is to specify that if the [eC#] sequence in the structural description of the segolate stress assignment rule is an inflectional suffix, the rule applies to **both** nouns and verbs.

In this connection, one should also mention segolates with a low segment, or what was originally a low segment (the traditional class of "gutturals" – /ʔ, ʕ, ḥ, h/ – discussed in 2.3.1 above), as second or third radical of the root, such as illustrated below (where the first form in each case is the historical antecedent):

(71) (i) C_3 = [+low]:

a. *pilʔ* > [péle] 'wonder', cf. [plaʔim] (Pl)
pirʔ > [pére] 'wild', cf. [praʔim] (Pl)

b. *salʕ* > [séla] 'rock', cf. [slaʔim] (Pl)
ṣibʕ > [céva] 'color', cf. [cvaʔim] (Pl)

c. *qarḥ* > [kérax] 'ice'
ṣimḥ > [cémax] 'plant'

d. *govh* > [góva] 'height'

(ii) C_2 = [+low]:

a. *toʔr* > [tóar] 'degree'

b. *noʕr, šaʕr* > [nóar] 'youth', [šáar] 'gate'

c. *šoḥd, naḥl* > [šóxad] 'bribe', [náxal] 'stream'

d. *zohr, lahv* > [zóar] 'glamour', [láav] 'blade'

(iii) C_3 (of stem) = [+low], with Feminine Suffix:

a. *ni+pṣaʕ+t* > [nifcáat] 'wounded (Fem)', cf. [nifcaʔot] (Fem,Pl)
mi+šmaʕ+t > [mišmáat] 'discipline'

b. *boreḥ+t* > [boráxat] 'escape(Fem)'
mi+šlaḥ+t > [mišláxat] 'delegation'

Bearing in mind what is left in Modern Hebrew of the original low series and which of them may still be assumed underlyingly (see Section 2.3.1 above), if one adopts the first approach noted above for segolate analysis, the underlying representations would take such forms as:

(72)	/pel?/	'wonder'	→ [péle] 'wonder'
	/sel?/	(/?/ from historical /ʕ/)	→ [séla] 'rock'
	/kerx/	(/x/ from /ħ/)	→ [kérax] 'ice'
	/to?r/		→ [tóar] 'degree'
	/na?r/	(/?/ from /ʕ/)	→ [náar] 'boy'
	/mišma?t/	(/?/ from /ʕ/)	→ [mišmáat] 'discipline'

Then, after (regular) stress assignment, either /e/ would be inserted as with regular segolates and then converted to [a] (except before final "original" /?/ as in the first example in (72) above) by rules that may be independently required for "gutturals"; or, alternatively, *a*-Insertion for gutturals would apply **before** the insertion of the segolate /e/. In such cases, if the /?/ (from /ʕ/) or [x] (from /ħ/) are word-final, [a] should be introduced by an extension of the rule that replaces /?/ from former /ʕ/ with the low vowel [a] and introduces [a] before [x] from former /ħ/ when these consonants occur word-finally but are not preceded by /a/ in the underlying representation (see Section 2.3.1 above). Thus, /sel?/ → [séla]. and /kerx/ → [kérax], by extension of the rule applying in /šome?/ → [šoméa] and /šalix/ → [šalíax], respectively. When the guttural is the second radical of the root, we can use the *a*-Insertion rule suggested above (in 2.3.1) for cases like /šo?l+im/ → /šo?alim/ (ultimately [šoalim]) '(they) ask', /?mid+a/ → /?amida/ (ultimately [amida]) 'standing', etc. so as to yield /to?r/ → /to?ar/ → [tóar], /na?r/ → /na?ar/ → [náar], etc. If the second approach to segolates is adopted, surface sequences like ...CeCe, ...CeCa(x), ...Co(x)aC and ...Ca(x)aC can simply be added to the two major groups, ...CeCeC and ...CoCeC, thus completing the list of surface segolate-noun types – all of which have penultimate stress.[21] There are of course some counter-examples – e.g., [tevá][22] 'box, case', [na(h)ár] 'river', [naxáš] 'snake', etc. – but they are considerably fewer in number than are the segolates that are realized in these patterns, which means that marking them as exceptions is legitimate. It seems that the arguments for the first alternative of segolate analysis (i.e., the rules supposed to account for the alternation of nouns like [kélev] with [kalba], etc.) cannot be motivated in any convincing way and that there are numerous segolates where no alternation can be found, particularly among recent coinages. The concrete analysis appears to be a plausible alternative.

2.4.2 Verb Stress

One environment for stress assignment in the verb system is the same as the one in which /i/ and /e/ are neutralized with /a/, that is, $-\left[\overset{C}{}_{+\text{stem}}\right]$+C, as illustrated in (i) below, and another is $\left[\overline{+\text{high}}\right]$C+V#, as illustrated in (ii):

(73) (i) /katav+ti/ → [katávti] 'I wrote'
/nikšar+nu/ → [nikšárnu] 'we were tied'
/diber+tem/ → [dibártem] 'you(Pl) talked'
/it+labeš+t/ → [itlabášt] 'you(Fem) dressed'
/i+kdim+ta/ → [ikdámta] 'you were early'

(ii) /i+kdim+a/ → [ikdíma] 'she was early'
/ta+kdim+u/ → [takdímu] 'you(Pl) will be early'
/ya+kum+u/ → [yakúmu] 'they will rise'
/ta+šir+i/ → [tašíri] 'you(Fem) will sing'
/e+kim+a/ → [ekíma] 'she raised'
/ta+kim+u/ → [takímu] 'you(Pl) will raise'

Present-Tense *benoni* forms must be excluded, in view of such forms as [makdimím] '(they) are early', [makdimá] '(she) is early', etc. If neither the first nor the second environment is met, stress falls on the final vowel, as it normally does in Hebrew, as in:

(74) [katáv] 'he wrote' [dibér] 'he talked'
[katvú] 'they wrote' [dibrá] 'she talked'
[nixtáv] 'was written' [tebadrí] 'you(Fem) will talk'
[nixtevá] 'was written (Fem)'

Historically, the /i/ and /u/ of the environment illustrated in (73-ii) above were tense and long, and forms like [katvú] were realized as [kāθəvū]. One could say, then, that a "strong" syllable (that is, a closed one or one containing a tense vowel) attracted stress to the final vowel of the stem; otherwise stress was assigned to the final vowel of the verb.

It is doubtful whether the notion of "strong" syllable should be used synchronically to explain stress-assignment in verbs. The question is not so much of cases of a stem-final /ʔ/ as in /maca?+ti/ → [mácati] 'I found', since difficulties of this type can be circumvented by rule ordering – mainly, by ordering Stress Assignment prior to ?-Deletion in this particular case. The problem is with verbs having a vowel at the end of their stems in the underlying representation. There is no good synchronic reason for

assuming underlying representations such as those in (i) to account for the forms in (ii) below:

(75)	(i)		(ii)	
	/banay+ti/		[baníti]	'I built'
	/niglay+nu/		[niglénu]	'we emerged'
	/itgaley+ta/		[itgaléta]	'you were found'

The only synchronic argument might be the correspondence of nouns or adjectives like [bniyá] 'building' and [banúy] 'built' for [banití], etc., but this is hardly sufficient in view of the ad hoc rules which would be required to get rid of the glide and modify the neighboring vowels. Underlying (and surface) representations of [baníti] and [itgaléta] seem, then, to contradict (synchronically) the claim that stress is attracted by a closed syllable at the end of the stem. It is indeed the end of the stem, but the syllable is open.

Furthermore, /i/ and /u/ are just as tense or lax as any of the other vowels of Modern Hebrew. True, they are not deleted or reduced to [e] as are non-high vowels in the verb-system (see Section 2.2.5a), but it is hard to show that this is due to their being tense. Note the existence of such forms as: [kámu] 'they rose', [káma] 'she rose', [egéna] 'she defended', and [exélu] 'they began'; deriving [kámu] from something like /kum+u/ just because of the stem being realized as [kum] in the Future is counter-intuitive and ad hoc. It seems that the quality of the vowel concerned and the nature of the syllable in which it occurs are less important than its position in the stem and its susceptibility to deletion or reduction. In other words, essentially it is the final vowel of the verb-stem that is stressed – unless it is deleted or reduced, in which case stress shifts to the suffix. Thus, stress applies to the vowel before all suffixes beginning with a consonant, regardless of whether the stem itself ends with a consonant or not, and any other vowel that is unaffected by deletion or reduction is assigned stress as well.

The obvious problem is that when stated this way, stress assignment appears to be dependent on prior application of reduction, which seems counter-intuitive as well, since the normal procedure is reversed – Reduction is expected to apply after Stress Assignment, to unstressed vowels under the influence of some neighboring stressed vowels.

We have already ruled out classifying non-high vowels as "weak" and assigning stress to stem-final vowels that are "strong" in the sense of being high or in a closed syllable; we saw that there are forms like [egéna], [itgaléti], [kámu], etc. in spite of /e/ and /a/ being "weak." Only a kind of global constraint that can look ahead in the derivation can

tell which vowels will be reduced and which will not, so as to stress the latter only.

It seems, however, that for Stress Assignment to follow Deletion/Reduction is not so irregular in the case in question. Both rules are restricted in various ways, and can hardly be claimed to be purely phonetic. We saw that Deletion/Reduction of the stem-final vowel applies in the verb-system – and that some of the Present Tense *benoni* patterns are arbitrarily excluded. We also saw that Stress Assignment in the verb-system is separate from the rest of the grammar, and even there it is not closed syllables and tense vowels that attract it but rather particular suffixes and stem-final vowels in certain types of stems. Since neither of the two rules is truly phonetic, it hardly matters in what order they apply.

Since the ordering of Stress Assignment and Deletion/Reduction with respect to each other does not seem to matter, what is probably worth describing is the fact that the two are **mutually exclusive**. Thus, in [ikdíma] 'she was early', [katávti] 'I wrote', etc., stress falls on the final vowel of the stem since it is not affected by Deletion/Reduction, and in [katvú] (from /katav+u/) 'they wrote' and [tixtev+ú] (from /tixtov+u/) 'you(Pl) will write', stress falls on the suffix vowel because the stem-final vowel was either deleted or reduced. In a way, then, it is not at all necessary to describe verb-stress in a generative framework – the surface may suffice as a level of reference, just as in the case of segolate-stress above.

This last observation, however, holds only if speakers are capable of simultaneously scanning complete paradigms whenever a verb-form is to be stressed. To tell whether a surface [e] is basic or reduced, one needs to see the whole paradigm in order to find whether this [e] is basic or alternates with some non-high vowel: if it is basic, it is stressed; if reduced, the suffix vowel is. In a form like [kanu] 'they bought', to find whether it is [a] or [u] that should be stressed, one needs to scan the relevant paradigm, to find whether the stem [kan] is common to all realizations. The presence of a final [a] in the unmarked 3rd Person Singular [kana] suggests that the final vowel of the stem has been deleted in [kanu], that is, that stress should shift to the suffix. It is clear, however, that although we seem to refer to the surface paradigm only, a distinction is at the same time being made between what is basic and what is derived in the said paradigm – a situation which is tantamount to assuming two levels of representation. Our "surface observation" thus does not seem to be a **surface** observation in any important sense.

2.4.3 Influence of Yiddish Stress

Probably under the influence of Yiddish, proper names and some other commonly used words which are assigned final stress in formal or more normative style have their primary stress moved to the penultimate vowel in colloquial usage. The examples in (i) below are of people's names; the pairs in (ii) compare common nouns with (quasi-)homophonous proper nouns; and those in (iii) illustrate Yiddishized versions of Hebrew words (with concommitant changes in meaning):

(76) (i) [yaél] → [yáel]
[šmuél] → [šmúel]
[menaxém] → [menáxem]
[naftalí] → [naftáli]
[avigdór] → [avígdor]

(ii) [rexovót] 'streets' ~ [rexóvot] 'Rehovot'
[xaím] 'life' ~ [xáim] 'Chaim'
[riná] 'singing' ~ [rína] 'Rina'

(iii) [taxlít] 'aim, purpose' → [táxles] 'business'
[meci(ʔ)á] 'finding' → [mecíe] 'bargain'

In proper names, if the second vowel in a sequence of three syllables is [e], colloquial stress will fall on the antepenultimate vowel and [e] will be reduced, as in [mordexáy] → [mórdəxày].

2.4.4 Variation in Child Speech

Children tend to shift stress to the **first** syllable when the word concerned is used in the context of games (when used out of this context, "normal" stress is maintained by the same children). Note the stress in the second column:

(77) [klafím] 'cards' ~ [kláfim] 'game of cards'
[bulím] 'stamps' ~ [búlim] '(collecting) stamps'
[rišón] 'first' ~ [ríšon] 'first step in game'
[xamiší] 'fifth' ~ [xámiši] 'fifth step in a game'
[monopól] 'monopoly' ~ [mónopol] 'monopoly (game)'

Children may also shift penultimate stress in proper names to word-initial position, as in:

(78) [avišáy] ~ [avíšay] ~ [ávišay]
[avšalóm] ~ [avšálom] ~ [ávšalom]

2.4.5 Stress in Borrowed Nouns and Adjectives

Generally speaking, regularities characteristic of Hebrew stress assignment are restricted to a specific category, or at least to native words (and borrowed verbs which, once incorporated into the language, behave like native verbs in the various paradigms). Stress in borrowed nouns and adjectives is difficult to predict – probably because it is often borrowed with the word, just as it occurred in the source language. If there is consistency in such borrowings, it is because words sharing the same suffixes or stem-endings will normally show the same stress pattern, as illustrated below (where Hebrew forms are listed according to foreign suffix and forms are glossed only when there is no apparent (English) counterpart):

(79) (i) NOUNS

'-ist': *marksíst, anarxíst, bardakíst* 'chaotic person', *balaganíst* 'muddler' ... (Pl: *marksístim*, etc.)

'-ism': *marksízəm* (~*marksízm*), *anarxízəm, hinduízəm, boroxovízəm* 'Borochov's doctrine' ...

'-at(e)': *demokrát, kandidát, formát, konglomerát* ... (Pl: *demokrátim*, etc.)

'-ent': *studént, impotént, argumént, brezént*, 'canvas', *parlament* ... (Pl: *studéntim*, etc.)

'-ect': *prospékt* 'catalog', *proyékt, obyékt* ... (Pl: *prospéktim*, etc.)

'-ope': *izotóp, mikroskóp, filantróp, epidyaskóp* 'opaque projector' ... (Pl: *izotópim*, etc.)

'-ogist': *psixológ, geológ, teológ, pedagóg* 'pedagogue' ... (Pl: *psixológim*, etc.)

'-ion': *milyón, bilyón, proletaryón* 'proletariat' ... (Pl: *milyónim*, etc.)

'-nym': *psevdoním* 'pseudonym', *homoním, antoním* ... (Pl: *psevdonímim*, etc.)

'-or': *transformátor, refléktor, kompositor* 'composer' ... (Pl: *transformátorim*, etc.)

'-meter': *barométer, termométer, kilométer* ... (Pl: *barométrim*, etc.)

'-ium': *rádyum, kálcyum, krematóryum* ...

'-us': *fíkus, prímus* 'kerosene burner', *lákmus* 'litmus' *kónus* 'cone' ... (Pl: *prímusim*, etc.)

'-ic': *plástik* 'plastic', *čúpčik* 'knob', *šmíčik* 'object (to hold)' ...

'-ic(s)': *repúblika, polítika, múzika* 'music', *kerámika* 'ceramics' ... (Pl: *repúblikot*, etc.)

'-ion,-y': *televízya* 'television', *demokrátya* 'democracy', *polarizácya, kalórya, šampánya, ráfya* 'raffia', *geográfya* ... (Pl: *televízyot*, etc.)

'-ade, -ate': *barikáda* 'barricade', *šokoláda, otostráda* 'highway' ... (Pl: *barikádot*, etc.)

'-(a)': *rénta* 'rent', *šánsa* 'chance', *refórma, kariyéra* 'career', *komúna* 'commune', *kultúra, rekláma* 'advertisement', *rakéta, víza* 'visa', *prestíža, reportáža* 'newsreport', *premyéra* 'premiere', *karikatúra* 'cartoon', *kantáta, ǰúla* 'marble', *fírma, perspektíva* 'perspective' ... (Pl: *kariyérot*, etc.)

(ii) ADJECTIVES

'-ive': *impulsívi* 'impulsive', *ekskluzívi, pozitívi, normatívi* 'normative' ... (Pl: *impulsívi(yi)m*, etc.)

'-al': *normáli* 'normal', *brutáli, idiáli, globáli, generáli* ... (Pl: *normáli(yi)m*, etc.)

'-ic': *demokráti* 'democratic', *problemáti, paritéti* 'bipartisan', *patriyóti* ... (Pl: *demokráti(yi)m*, etc.)

'-ist,-an, -ic(al)': *marksísti, anarxísti, balísti* 'ballistic', *mikroskópi, republikái* 'republican', *barométri, agrári, islámi, proporcyóni* 'proportional', *klási* 'classical', *spartáni, partizáni* 'unorganized', *ameriká(n)i* 'American', *standárti* 'standard', *romántí* 'romantic', *rentabíli* 'profitable', *prákti* 'practical' ... (Pl: *marksísti(yi)m*, etc.)

We see then that endings like *-ist#, -izəm#, -ent#, -ekt#, -og#, -yon#*, etc. always carry the stress of the word they attach to. Endings like *-tor#, -ter#, -yum#, -us#, -ik#*, etc. will predict that stress is assigned to the preceding vowel. This also happens when the suffix is non-native *-a#* or *-i#*, with some exceptions. It might be that specific subclasses of these

endings, like *-Cya#* or *-ivi*, trigger stress assignment separately, but there are few exceptions to the general statement that *-a#* and *-i#* borrowings have penultimate stress. Exceptions to the *-a#* type are *univérsita* and the *-ika#* class in (i) above (unless the rule is modified so that *-a#* causes the last stem-vowel to be stressed). Exceptions ending with *-i#* are more common, as in:

(80)

kámeri	'chamber (music, etc.)'
burganí	'bourgeois'
bazukaí	'bazooka-operator'
xeyfaí	'person from Haifa'
sfaradí	'Spanish, Sephardi Jew'
germaní	'German (vs. [germáni] 'Germanic')
rusí	'Russian'

and most other nationalities, except *ostráli* 'Australian', *súri* 'Syrian', and a few others. However, some of these exceptions could be attributed to their *-i#* being the native Hebrew *-i#* and not the borrowed suffix (especially nationalities), and native *-i#* will always be assigned final stress by the main part of the stress rule as outlined earlier. In *ostráli* and *súri*, the generalization for stress in foreign borrowings with *-i#* is maintained since *-i#* or *-i+* already existed in the original language.

Borrowed nouns are normally borrowed with their previous stress, then, and the correlation between stress in borrowed nouns and their endings is a function of similarity of endings in their language of origin. This means, of course, that accidental similarity of endings is not the important factor, for instance, *rótel* 'unit of measurement' (from Arabic) and *fotél* 'armchair' (from French) do not display the same stress pattern. Furthermore, if there is free variation in the stress assigned to borrowed nouns, e.g., *standárt* ~ *stándart, periskóp* ~ *périskop, ekspórt* ~ *éksport,* etc., it is probably due to a conflict between more than one substratum language.

An important observation related to stress in borrowed nouns and adjectives is the following: When a native suffix is added, the main stress will normally remain on the syllable to which it is assigned in isolation. All the illustrations above are subject to this restriction, save the exceptions discussed in connection with the class of nouns and adjectives ending with *-i#* (see (80) above) which may be attributed to Hebraizing of the forms concerned. There are, however, alternations like:

(81)

Singular		Plural	
[télefon]	~	[telefónim]	
[pátefon]	~	[patefónim]	'record-player'
[univérsita]	~	[univérsitot]	~ [universita(ʔ)ót]

The reason for stress shifting this way is that for primary stress to fall on the fourth syllable from the end is the least preferred option. The primary stress does not shift to the next syllable to the right either, because the syllable originally stressed does maintain a secondary (or tertiary) stress, and the preferred stress-rhythm is stressed-unstressed-stressed-unstressed...; thus, the precise realization of *telefónim* is [t$\overset{3}{\text{e}}$l$\overset{1}{\text{e}}$fónim], which not only maintains the preferred rhythm of the sentence, but also keeps some degree of the original borrowed stress.

It appears, then, that borrowed nouns and adjectives tend to preserve stress in the same location they occupied in the language from which they were borrowed. Only when such nouns or adjectives are transformed into verbs do they acquire "native" stress contours.

NOTES

[1] This loss of specifically Semitic sounds with the revival of Hebrew as a living language has been quite generally attributed to the influence of the European languages spoken by the Jews who insisted on the use of Hebrew for purposes other than religious ritual and study. See, for instance, Harris 1971 and sources cited there as well as references to the revival of Hebrew noted in Chapter One, fn.1.

[2] The dialect in question is the one associated with native Israelis (or those who came to Israel at an age young enough to have no trace of a foreign accent in Hebrew) of so-called "Ashkenazi" extraction – as compared with the so-called "Sefardi" Jews (see Chapter One, fns. 4, 5). The division is sociolinguistically quite complex, as Israelis of Irani origin, with an Indo-European language background, may manifest features of "Sefardi" pronunciation, such as the realization of pharyngeal /ħ/ and /ʕ/ or the pronunciation of the /r/ as an alveolar trill rather than as a uvular fricative – while immigrants from Balkan countries such as Bulgaria or Yugoslavia may speak "Ashkenazi" type General Israeli, while in terms of origin belonging to "Sefardi" Jewry.

[3] Certain typically Semitic features found in Classical Arabic are not manifested in some dialects of Spoken Arabic either, but to a lesser degree than is true of "General Israeli Hebrew."

[4] The system of representing phonetic forms used by the author of this chapter will differ in detail from the transcription used in the rest of the book (as described in the Notes on Transcription and Notation). However, here, as throughout the book, word-stress should be assumed to be on the final syllable, unless otherwise indicated. Also, in this chapter we follow the convention of indicating surface phonetic realizations in square brackets and more abstract, underlying or historical forms between slashes. Historical forms are quite generally attested to by the orthography still in use and may sometimes be rendered in italics (except in the case of non-Latin phonetic symbols). For other comments on transcription and notation conventions in this chapter, see fns. 9, 10.

[5] For articulatory descriptions of vowel quality in Modern Hebrew pronunciation, see Marbé 1971 and Chayen 1973.

[6] These forms follow descriptions of the medieval Sefardi grammarians, e.g., Joseph Kimchi of the twelfth century. Predictable allophones, such as the "schwa mobile" and the various type of shortened vowels that follow guttural segments (*xatafim*) are not introduced here. Nor do we mention length alternations conditioned by stress – e.g., lengthening of short vowels in stressed syllables and shortening of long vowels in unstressed ones. Today it is usually agreed (see, for instance, Blau 1972) that the Tiberian system of *nikud* "pointing" does not reflect quantitative phonetic differences between long and short *i*, *u*, and *o*.

[7] Some speakers, primarily non-natives whose initial contact with Hebrew was in Europe, still maintain the [ē] ~ [ɛ] distinction throughout – e.g., [séfɛr] 'book' vs. [kélɛv] 'dog'. Others use [ē] very sparingly, e.g., in the construct-state form [šnē] 'two-of' or in plural [morē] 'teachers-of' vs. singular [morɛ] 'teacher(-of).

[8] Not a new phoneme, of course, but no longer an allophone.

[9] In the interest of conserving space and hopefully maximizing readability, glosses in this chapter have been greatly simplified as to Number and Gender, as well as to Person and Tense for verb forms. Specifically, nouns and adjectives are listed in the Masculine Singular unless otherwise specified, e.g., [raka] 'soft (Fem)' should be read as 'soft (Feminine, Singular)'.

Glossing of verb forms is more complicated and the following system is used: Unless otherwise indicated, verb forms are given in the stem form (3rd Person, Masculine Singular, Past Tense), e.g.: [diber] 'speak'. Glosses for other forms indicate only that information which differs from the stem form: that is, where not 3rd Person, Masculine, etc. Since Past and Future verb forms incorporate the Subject pronoun, their gloss will be form specific, e.g.: [tedabri] 'you(Fem) will talk' = 'talk (2nd Person, Feminine Singular, Future Tense)'. Present Tense *benoni* forms, while indicating Gender and Number, do not specify person; hence we have adopted a convention of glossing all Present Tense forms as (3rd Person), e.g.: [medabéret] '(she) talks' should be understood as 'talk (1st, 2nd, and 3rd Person, Feminine Singular, Present Tense *benoni*)'.

[10] Many speakers would pronounce an /h/ here (in initial position), particularly in

non-rapid speech – and the /h/ is in fact shown in the transcription used in the other chapters of this book. However, the author of this chapter considers /h/ to be generally deleted throughout in his own usage (except for optional realization before stressed vowels), and hence it is not shown in initial position in the representation of Hebrew forms in this chapter. This variation will be evident not only in verb forms (e.g., /itraxec/ for *hitraxec* 'wash oneself', but also, for instance, the definite marker is shown here as /a-/ rather than in the "full" form /ha-/, which is how it appears in other chapters.

[11] Historically, the initial consonant of the verb *anas* in (7-iii) is the glottal stop /ʔ/, often concurrent with the vowel /e/ and contrasting originally with the initial pharyngeal /ʕ/ of the verbs in (7-i,ii). Also, note that the three verbs listed in (8) have a historical initial glottal stop as well; that is, *avad* 'he worked' in (7-i) and *avad* 'he got lost' in (8-ii) originally had contrasting initial guttural consonants (see Section 2.4.1 below).

[12] In fact, in colloquial Hebrew, the Present Tense prefix *me-* freely alternates with *ma-*, as in [mekim] ~ [makim], [meŝiv] ~ [maŝiv], etc., although normativists struggle against this. The initial *m* of these prefixes alternates with the initial underlying /h/ of the Past-Tense forms of the *hifil* conjugation (see fn.10 above).

[13] The lowering of the high vowel /i/ to /e/ in the *piel* conjugation before a medial /r/ is rarely observed in everyday Hebrew pronunciation of such words as [ciref] 'join' like [citet] 'quote'; [sirev] 'refuse' like [simen] 'indicate'; [pireŝ] 'explain' like [piles] 'forge' – rather than the more normative [ceref], [serev], and [pereŝ], respectively. At all levels of style, however, the tendency is to retain the lowering of the vowel preceding /r/ in the action-noun form, yielding [ceruf] 'joining, combination', [seruv] 'refusal', and [peruŝ] 'explanation' – [ciruf], [siruv], and [piruŝ] being largely inadmissible to this day.

[14] Whether raising was totally blocked or whether /a/ was shifted to [e] rather than to [i] was sometimes predictable from the quality of the low consonant, for example, in the *paal* conjugation, but normally depended on which inflectional class it belonged to.

[15] The notion of a hierarchy of "strength" – or a scale of "sonority," which is the inverse of "strength" – is an old one in the history of linguistic description. Recently, it has been discussed by Foley 1970, Guile 1973, Hankamer and Aissen 1974, Hooper 1972, 1973, Lass 1971, Zwicky 1972, and others. They all recognize that in the present state of affairs, at least, it is not possible to provide a precise description for either "strength" or "sonority" in acoustic or articulatory terms, but they introduce evidence (from phonological change, fast speech, and syllabification) to show that these notions are linguistically real. Except for Foley, who insists on "strength" as not referring to anything physical, these scholars are willing to accept the semi-physiological, semi-acoustic definition that consonantal "strength" is equated with "force of articulation," or the amount of energy required to utter a segment, whereas "sonority" concerns the amount of energy produced in articulation. The greater the articulatory force required for the consonant, the less the energy that will be produced, which explains the inverse relationship between the two terms. Thus, normally, voiceless stops are the "strongest" and "least sonorant," while at the other end of the scale, vowels are the "most sonorant" and "least

strong." Usually, strength decreases gradually from the beginning of the syllable towards its vocalic nucleus; therefore, when the first member of a syllable-initial cluster is considerably stronger than the second, the syllable will be easier to articulate and to perceive.

[16] A further constraint on consonant clustering might be noted here: Initial C(ə)C(ə)C – the initial C being a prefixal consonant such as *b*ə- 'in, on, at' or *l*ə- 'to' – is normatively disallowed, even where the reduced (or epenthetic) vowel is pronounced as schwa (and not, as is more common in everyday usage, as [e]), and the initial vowel must be raised to [i]. Thus, *[bəyrida] should be rendered [biyrida] 'in descent', *[ləmnahel] is normatively [limnahel] 'to a manager', etc. In actual usage, this raising rule is rarely observed outside of set expressions, such as [bimkom] 'in place of' – never *[bəm(ə)kom], although alternations are found in quite common expressions such as: [bətnay] ~ [bitnay] 'on condition'; [bərəcinut] ~ [bircinut] 'seriously'; etc. One other instance where this constraint always applies is in the infinitival form of the *paal* conjugation, yielding prefixal [li-] in such forms as [lilmod] 'to learn', [livdok] 'to check', [lirkav] 'to ride', [liškav] 'to lie', etc. as compared with the [lə-]/[le-] infinitival marker of verbs in the other conjugations.

[17] Normatively, [bəxol##makom] and [bəvoker##exad] in (ii), with obligatory application of Spirantization (see fn.16 above).

[18] For instance, words like [é(y)le] 'these', [štá(y)im] 'two', [láma] 'why', [(ʔ)ílu] 'if' and words ending with the "directional" *-a* suffix, e.g., [šáma] 'there', [abáyta] '(to) home'.

[19] It cannot be an underlying /a/, since there are nouns like [sudar+ím] 'sweaters', [mošav+ím] 'seats', [siman+ím] 'signs', etc. It cannot be any epenthetic [a] either, since as was noted earlier, it is possible that Hebrew still has an *a*-Epenthesis rule where a "guttural" is followed by a consonant, and at least in the verb, the preceding vowel never gets deleted: /šaʔla/ → /šaʔala/, ultimately [šaalá]; /šoʔlim/ → /šoʔalim/, ultimately [šoalím].

[20] The leaders (...) are required to cover other cases such as [nikšéret] '(she) is tied', [miktéret] 'pipe', [mixmóret] 'net', and [tispóret] 'haircut'.

[21] Another such pattern is ...Ca(y)iC, as in [bá(y)it] 'house', [zá(y)it] 'olive', [(ʔ)á(y)in] 'eye' – with the distinctive bound construct-state form Ce(y)C, as in [bet], [(ʔ)en], etc.

[22] The form [tevá] represents a counter-example at least for those people in whose speech [e] freely alternates with [ey] in such cases.

3 MORPHOLOGICAL PATTERNING

3.0 INTRODUCTORY COMMENT

In a Semitic language such as Hebrew, the vast majority of "open class" lexical items or "content" words – verbs, nouns, adjectives[1] – can be characterized in terms of a combination of two elements: Consonantal Root + Morphological Pattern, the latter consisting of a discontinuous vowel sequence and sometimes including one or more prefixes and/or suffixes. It is the purpose of this chapter to examine the relationship of root and pattern, and to consider whether and how these notions might be captured in the lexicon of a formal grammar of the language.

The problem posed above does not apply in the case of the grammatical formatives of Hebrew – pronouns, prepositions, conjunctions, etc. – which can be characterized in much the same way as the morphemes (bound and free alike) of any non-radically based language: as a given, arbitrary combination of consonants and vowels (on condition, of course, that they conform to appropriate universal as well as language-specific phonological constraints).[2] Similarly, a limited set of nouns are traditionally considered "basic" or "non-derived" in that they neither have a triconsonant radical base nor are they related to other lexical items in the language, most particularly to verbs.[3] Compare, for example, the words *ec, ilan* 'tree' (the former of Biblical, the latter of later origin, as noted in fn.2), neither of which has any related forms in contemporary use, with the noun *cémax* 'plant'; the latter is related to the verbs *camax*[4] 'grow' (intransitive), *hicmíax* 'grow' (transitive) and to the nouns *cmixa* 'growth', *cimxiya* 'vegetation', *cimxoni* 'vegetarian'.[5]

What we shall be concerned with here is the characterization of such related forms as the following, where by the notion "related" we mean,

simply, having a common consonantal root.[6] Consider, for instance, the root k–t–b (where the stops k and b may alternate with the fricatives [x] and [v] respectively, as explained in Section 2.2.7). It is the basis for such verbs as *katav* 'write', *hixtiv* 'dictate', *hitkatev* 'correspond (by mail)'; nouns such as *katav* 'reporter, newsman', *katava* '(news)report', *ktav* 'script, handwriting', *ktiv* 'spelling, orthography', *mixtav* 'letter, missive', *mixtava* '(writing)desk', *któvet* 'address, inscription', *ktiva* '(act of) writing', *haxtava* 'dictation, dictating', *hitkatvut* 'correspondence', and the participial *katuv* 'written' (as opposed to 'oral' or 'spoken').

Traditionally, a sharp demarcation is drawn between the two major classes of verbs and nouns (adjectives being treated together with the latter under the category of "substantives").[7] Verbs are classified by the following categories: *binyan* 'conjugation', literally 'construction, building'; *nətiya* 'inflection'; and *gizra* 'declension'. Nouns are classified by the category of *miškal* 'pattern' (literally 'weight'), and in paradigmatic listings (e.g., Barkali 1964) are entered according to inflections of gender, number and "bound" construct-case form. The central concern of this chapter will be the two notions of *binyan* and *miškal*, but we first briefly review some of the main data included under the other categories referred to here.

3.1 INFLECTIONS (*NTIYOT*)

Under this heading we consider inflectional affixes (traditionally, *ntiyot*) which represent grammatical cateogires such as Person, Number, and Tense and which are productive in that they apply across the lexicon to all members of a given lexical category.

3.1.1 Verb Inflections

Hebrew verbs display a rich array of inflectional affixes. Finite verb forms are distinguished in terms of the category of Tense: compare – for 3rd-person masculine singular – Past Tense *gamar* '(he)finished'; Present Tense *gomer* 'finishes', Future Tense *yigmor* '(he)will finish' from the root g–m–r. They also display features of Number, Gender, and – with the exception of the Present Tense, for reasons considered later – Person. We may thus establish the following paradigm for the root g–m–r 'finish' in what we shall call for the time being "the first conjugation," traditionally *binyan kal* or *paal*.

(1) INFLECTIONS OF THE ROOT g—m—r FOR TENSE, NUMBER, GENDER AND PERSON IN THE FIRST CONJUGATION (*BINYAN KAL*)

			PAST	PRESENT	FUTURE
SINGULAR	PERSON				
	1st	M	gamárti	↑	egmor
	2nd	A	gamárta	gomer	tigmor
	3rd	S C	gamar	↓	yigmor
	1st	F	gamárti	↑	egmor
	2nd	E	gamart	goméret	tigməri
	3rd	M	gamra	↓	tigmor
PLURAL	1st	M	gamárnu	↑	nigmor
	2nd	A S	gamártem†	gomrim	tigməru
	3rd	C	gamru	↓	yigməru
	1st	F	gamárnu	↑	nigmor
	2nd	E	gamárten†	gomrot	tigmórna††
	3rd	M	gamru	↓	tigmórna††

† These forms, normal in colloquial usage, are unacceptable to purists, who prefer the earlier forms displaying the regular reduction of the pretonic vowel: *gəmartém/-tén.*

†† These forms have fallen into quite general disuse, being replaced by the masculine forms of the plural future: *tigməru* for 2nd-person and *yigməru* for 3rd-person -- an instance of morphological neutralization (and hence simplification) accepted even by some normativists today.

As this chapter is not primarily concerned with the inflectional system of the verb, we confine ourselves to a few general comments on the form displayed in (1) above.

a) In the Past Tense, the 3rd-person masculine singular form *gamar* representing the pattern CaCaC is basic, in the sense that the other forms are constructed by suffixes added to this base to yield: *gámarti, gamárta, gamart, gamárnu* and the colloquially widespread *gamártem/-ten*; the forms *gamra* and *gamru* are derived by deletion of the

pretonic vowel *a* before the stressed suffixes *-a* and *-u*, respectively. A similar process is manifested in other conjugation patterns in relation to the 3rd-person masculine singular form {CiCeC} in *binyan piel* and {hiCCic} in *binyan hifil*; but where the pronominal suffixes are added, the second high vowel is lowered to *a*,[8] thus: *diber* 'he spoke', *dibárti, dibárta, dibárnu*, etc., and *hidbik* 'he pasted', *hidbákti, hidbákta, hidbáknu*, etc.

There is no distinction of gender in the 1st-person forms – *gamárti* and *gamárnu* being used for both feminine and masculine. The suffixal enclitics of the Past Tense are thus "portmanteau" markers of the various categories: Tense, Number, Person, and Gender, and they have different syllabic structures: -V as in the case of *-a, -u*; -C as in *-t* (entailing the only case of word-final consonant clustering in Hebrew); -CV as in *-ti, -ta, -nu*; -CVC as in *-tem, -ten*. The marker of Past Tense might alternatively be taken to be the infixed vowels {-a-a} for the first conjugation and {-i-e}, {-i-i} for *piel* and *hifil* respectively (see fn. 8), but this is a question to which we shall not address ourselves here. (In this connection, see Aronson 1969 on the predictability of vowel patterning in Hebrew.)

b) In the Future Tense forms, prefixes serve to indicate Person: *ti-* and *yi-* for second and third person respectively, with the underlying low "guttural" /ʔ/ of the first person prefix lowering its vowel to *e*. Number, and to some extent Gender, are manifested in the suffixal forms of, say, *tigməŕi* and *yigməŕu*. The basic infixed vowel here is *o*, as in the first three forms listed in the Future Tense column, although there is a small group of verbs which take *a*, such as *yirkav* '(he)will-ride' or *tilbaš* '(she)will-wear' (an example of alternations confined to specific morphemes, as discussed in Section 2.2.1), as well as verbs with a low "guttural" root-final element (see Section 2.3.1), thus: *yimca* '(he)will-find' from the root m–c–ʔ, *tišma* '(she)will-hear' from the root š–m–', and *nivrax* '(we)will-escape' from b–r–ħ.

c) The present Tense forms in the *kal* conjugation display the basic pattern of {CoCeC}; they manifest the categories of gender and number, but not of person; and their suffixes in the plural – *-im* and *-ot* and, to some extent, in the feminine singular *-et* – are identical to the corresponding markers in the noun system. These two characteristics identify Present Tense verbs as morphologically associated with the Noun system; on the other hand, such forms pattern phonologically like other elements of the verb system in that vowel reduction takes

place pretonically before a stressed suffix as in *gomer/gomrim*, rather than in the antepretonic syllable, as it does in nouns (see Section 2.4.2 of the preceding chapter). Note that there is strong syntactic motivation, too, for associating these forms – traditionally termed the *benoni* 'medial' or 'intermediate' – with both the verbal and the nominal system (see Section 5.2).

d) Other forms traditionally included in the system of verb inflections in addition to those illustrated in (1) above are:

(i) IMPERATIVE – This category is morphologically quite straightforward, as it normally takes the form of 2nd-person future tense with the initial prefixal syllable of the future lopped off and concomitant vowel alternations in the stem. Thus for g–m–r in the first conjugation we get: *gmor* (Masc,Sg), *gimri* (Fem,Sg), *gimru* (Masc,Pl), *gmórna* (Fem,Pl). In normal colloquial usage the general trend is to ignore such forms and to simply use the ordinary future for the Imperative, also.

(ii) INFINITIVE CONSTRUCT – the *makor natuy* 'inflected infinitive' or *šem póal* 'verbal noun' of traditional grammar: Morphologically, the infinitive consists of the future stem of the verb with a prefixed *l-* as infinitive marker. Thus: g–m–r *ligmor* 'to-finish', š–b–r *lišbor* 'to-break', r–k–b *lirkav* 'to-ride', ?–k–l *leexol* 'to-eat', '–m–d *laamod* 'to-stand' (the low root-initial consonants in the latter two examples incurring lowering of the phonologically determined high vowel of the basic infinitive marker for *kal* – *li-* going to *le-* or *la-*). The form of the infinitive marker in all conjugations other than *kal* is *lə-*.[9]

This construction also includes a form which functions syntactically as a kind of gerund in Modern Hebrew (see Chapter Nine, especially Section 9.1 and 9.2). These forms generally have the same stem as the infinitive and are traditionally treated together with it, but they do not take the *l-* marker; rather, they are in most cases preceded by a preposition, either enclitic or free, and are followed by a nominal (the underlying Subject of the verb from which they are derived), either in the form of a regular noun or of an enclitically suffixed pronominal. Thus: *b-* 'on, while' + *gmor* infinitival base of g–m–r + *hayəladim* 'the-boys' yields *bigmor hayəladim* 'on-finishing the-boys' (see fn. 9) in the sense of 'on the boys' finishing'; and if *hayəladim* is replaced by the possessive pronominal *-am* 'their', we get *bəgomram* 'on-finishing-their' (with deletion of the pretonic stem vowel).

(iii) INFINITIVE ABSOLUTE – *makor muxlat*: This, as its name suggests, is a form which is morphologically constant, i.e., uninflected. It serves a very marginal role in Modern Hebrew and occurs invariably with a finite form of the same verb (where by "verb" we refer, for the time being, to Root + Morphological Pattern = *binyan*), and it generally has an emphatic intent. (For a brief explanation, see fn. 1 to Chapter Nine.) Thus, *gamárti* '(I)-finished' could be intensified by adding the form *gamor* to yield *gamor gamárti*, meaning something like 'I have INDEED finished (completely)'.

These, then, are the so-called *ntiyot* 'inflectional affixes' associated with the verb-system of Hebrew, and traditionally treated as such in the paradigmatic listings of verbs (see Barkali 1965, Sadka 1964) as well as standard morphology textbooks used in the schools (e.g., Blau 1967, Goshen-Gottshtein *et al* 1967, Naor 1962, Ofnan 1963, Sadka 1975):[10] Past, Present, Future Tense – subdivided by Person, Number, Gender; Imperative; Infinitive-Absolute, Infinitive-Construct with prefixal *l-*, Infinitive Construct with some other prefix. These same listings invariably provide one further kind of paradigmatic information by subdividing the verb-forms according to *binyan* conjugation. Implicit in the fact that we have not given special consideration to this parameter under the present heading is the claim that these *binyan* patterns do not form part of the "inflectional" system of Hebrew at all. We try to motivate this view in Sections 3.4.1 and 3.4.2 below.

3.1.2 Noun Inflections

Hebrew nouns are inflected for Number, by the addition of the suffix *-im* or *-ot* to masculine and feminine nouns respectively, with a few exceptions in both directions – e.g., masculine *šulxan* 'table' has the plural *šulxanot*, while feminine *éven* 'stone' has the plural *avanim*. Some nouns also take a dual form, indicated by the suffix *-áyim*, as in *sfatáyim* 'lips' or *yomáyim* 'two days'.[11] With respect to Gender, most nouns are inherently either masculine or feminine, with the latter generally ending in *-t* or *-a*, though here too there are several exceptions. Nouns which are [+ANIMATE] generally have a stem which is neutral with respect to gender, e.g., *par* 'bull'/*para* 'cow', *kélev* 'dog'/*kalba* 'bitch', *tarnəgol* 'rooster'/*tarnəgólet* 'hen'; *more* 'male-teacher'/*mora* 'female-teacher', *yéled* 'boy'/*yalda* 'girl', *géver* 'man'/*gvéret* 'lady', etc.

Unlike other Semitic languages such as literary Arabic, Hebrew has lost its suffixal case markings, relationships between verbs and their

accompanying noun phrases being expressed by prepositions, as noted in Section 4.1 below. A single remnant of the older Semitic case system takes the form of the unstressed ending *-a* in the sense of 'direction towards', e.g., *cafóna* 'northwards, to-the-north', *yərušaláyma* 'to-Jerusalem', *haíra* 'to-town', etc.[12]

The other major inflectional change manifested in nouns is the "bound" form taken by the initial (head) noun in *smixut* "construct state" genitives, as discussed in Chapter Seven. The form of the initial noun in a Noun + Noun (=Head + Adjunct) sequence will change along the following general lines (discussed in more detail in Section 7.5):

a) Masculine singular nouns retain their original form unless their vowel pattern is such as requires a reduction of the penultimate stem vowel before a stressed suffix. Thus in expressions like *cémax midbar* 'desert plant' or *ez harim* 'mountain goat', the head noun *cémax* or *ez* takes the same form in compounds as in its free state. Examples of nouns which take different forms include: *áyin* 'eye', *eyn hamáxat* 'the needle's eye'; *davar* 'thing, word', *dvar hašem* 'the word of God'; *nicaxon* 'victory', *nicxon haam* 'the people's victory'. Such alternations indicate that in phonological terms, construct-state or *smixut* compounding is similar to a process of affixing – the second, adjunct noun having the same phonetic effect on the head noun as a stressed suffix such as the plural *-im* or *-ot*.

b) Feminine singular nouns ending on the surface in the vowel *-a* in their "free" form, retain the underlying final *-t* in the construct state (again, just as they do when followed by an inflexional suffix). Thus: *simla* 'dress', *simlati* 'my-dress', *simlat kala* 'bride's dress'; *para* 'cow', *parato* 'his-cow', *parat ikar* 'farmer's cow'; *prusa* 'slice', *prusaténu* 'our-slice', *prusat léxem* 'slice-of bread'.

c) Masculine plural nouns take the suffix *-ey* in place of *-im* (possibly underlying *-iym*) in the construct state. Thus: *sus* 'horse', *susim* 'horses', *susey hamélex* 'the king's horses'; *xélek* 'part', *xalakim* 'parts', *xelkey hasipur* 'the parts of the story'.

The above comments merely note some of the major processes involved. Detailed listings of the varied range of construct-state forms of nouns are to be found in any traditional textbook of Hebrew grammar, as

well as in paradigmatic tables (e.g., Barkali 1964). Alternations in vowel patterns between free and bound (construct) forms can usually be explained in terms of general phonological processes – such as those illustrated above. However, there are certain anomalies due to the sub-divisions of nouns into different morphological classes: compare, for example, *kanaf* 'wing'/*kanfey* 'wings-of' with *davar* 'word'/*divrey* 'words of' (see Sections 2.2.2 and 2.2.3 above). Such irregularities often have historical origins which may still be manifested in the orthography, but which have no phonetic consequences and probably no psychological reality for the contemporary speaker of Hebrew.

Finally, as a sub-case of the construct-state genitive form, nouns can similarly be inflected when followed, not only by an adjunct noun, but also by pronouns, generally denoting possession. The following table lists the set of these pronominal suffixes for a completely unmarked type of noun – *sus* 'horse' – where by "unmarked" we mean that it manifests none of the changes in its basic vowel or consonant pattern which are sometimes incurred for phonological or morphological reasons.

(2) POSSESSIVE PRONOMINAL INFLECTIONS OF THE NOUN *sus*

		MASCULINE		FEMININE	
		sus 'horse'	*susim* 'horses'	*susa* 'mare'	*susot* 'mares'
SINGULAR	1st	susi 'my horse'	susay 'my horses'	susati 'my mare'	susotay 'my mares'
	2nd Masc.	susxa	susexa	susatxa	susotexa
	2nd Fem.	susex	susayix	susatex	susotayix
	3rd Masc.	suso	susav	susato	susotav
	3rd Fem.	susa	suseha	susata	susoteha

		MASCULINE		FEMININE	
	1st	susénu	suséynu†	susaténu	susotéynu†
PLURAL	Masc. 2nd	susxem	suseyxem	susatxem	susoteyxem
	Fem.	susxen	suseyxen	susatxen	susoteyxen
	Masc. 3rd	susam	suseyhem	susatam	susoteyhem
	Fem.	susan	suseyhen	susatan	susoteyhen

†In normal speech no distinction is made between what is represented in the table as -énu 'our+SG' and -éynu 'our+PL'. The table follows the traditional representation, as manifested in the orthography to this day.

These inflected forms have fallen into general disuse in everyday colloquial usage -- particularly in the possessive sense illustrated above; the "free" form of the genitive with the particle *šel* 'of' is preferred, e.g., *hasus šeli* 'the-horse of-me = my horse' instead of *susi* (see Sections 7.1 and 7.2). Inflected forms such as those shown in (2) above do, however, still form part of the recognition knowledge (and occasionally more formal usage) of any native Hebrew speaker, and as such they merit inclusion in a grammar.

3.1.3 Prepositional Inflections

Related to the above set of forms is the last group of inflections to be considered here: all prepositions – whether enclitic, such as prefixal *b-*, *l-*, *m-* (see fn.9), or separate words such as *al* 'on', *im* 'with, *el* 'to', *min* 'from' – are inflected when followed by a personal pronoun. Thus *b- +ani* 'in + I' becomes *bi* 'in-me', *al + hem* 'on + they' becomes *aleyhem* 'on-them', *šel + hu* 'of + he' becomes *šelo* 'his', etc. Some prepositions change form, generally for historical reasons, when followed by a pronominal suffix: compare *min* 'from' with *mimeni* 'from-me', *im* 'with' but *ito* 'with-him', *et* Object Marker but *otanu* 'OM-us'. Moreover, some prepositions take singular-type pronominal suffixes while others, quite arbitrarily, take the plural form: compare *iti* 'with-me', *oto* 'OM+me', *bi* 'in-me', *šeli* 'of-me' with *alay* 'on-me' *elay* 'to-me', *taxtay* 'below-me'. These alternations are illustrated below.

(3) PRONOMINAL INFLECTIONS OF PREPOSITIONS

		SINGULAR-TYPE SUFFIX		PLURAL-TYPE SUFFIX	
		b- 'in'	*šel* 'of'	*al* 'on'	*taxat* 'below'
SINGULAR	1st	bi 'in me'	šeli 'of me'	alay 'on me'	taxtay 'below me'
	2nd Masc.	bəxa	šelxa	aléxa	taxtéxa
	2nd Fem.	bax	šelax	aláyix	taxtáyix
	3rd Masc.	bo	šelo	alav	taxtav
	3rd Fem.	ba	šela	alé́ha	taxté́ha
PLURAL	1st	bánu	šelánu	aléynu	taxtéynu
	2nd Masc.	baxem	šelaxem	aleyxem	taxteyxem
	2nd Fem.	baxen	šelaxen	aleyxen	taxteyxen
	3rd Masc.	bahem	šelahem	aleyhem	taxteyhem
	3rd Fem.	bahen	šelahen	aleyhen	taxteyhen

Note: The forms listed in the plural column represent normative pronunciations. In actual usage, singular-type affixes are often used instead. Thus, *taxtex* alternates with the normative *taxtáyix* 'below-you(Fem,Sg)' and *taxta* is heard more frequently than the normative *taxté́ha* 'below-her'; similarly, younger (high-school age) Israelis will say *alex* 'on-you(Fem,Sg)' rather than the normative plural-type form *aláyix*, just as instead of *bəxayáyix* 'on-life-your', they will use *bəxayex* in the sense of 'You don't say!' or 'Really?!'.

Clearly evident is the parallelism of the paradigms for the possessive pronominal inflections of nouns in (2) and the pronominal inflections of prepositions in (3). And indeed, many prepositions are easily traced to a nominal origin: e.g., *al yad* 'next-to' – literally 'on hand'; *al ydey* 'by' – literally 'at the hands of'; *lifney* 'before' – literally 'to the face of'; *axarey* 'behind' – literally 'back of', etc.

A further point connected to this set of forms and relevant to our discussion of the verb paradigms (Section 3.2.1) is that pronominal objects of verbs taking the accusative case can typically be suffixed to the verb itself. Thus: *raíti oto* 'I-saw him' can be collapsed to *rəitiv*; *šomer + oti* 'guards me' to *šomréni*; *eškax otax* 'I-will-forget you' to *eškaxex*, etc. Such forms are rare in spoken Hebrew, though still found in the written language, both the more formal and in the press.

3.1.4 Summary

Above we noted some of the major features of the inflectional system of Verbs, Nouns and Prepositions in Hebrew. Note, moreover, that Adjectives are inflected for Number and Gender in basically the same way as Nouns – one of the reasons for why Adjectives and Nouns are traditionally considered together in Hebrew "grammars" (see fn. 10 above). This point is significant, for it reflects a very general tendency in traditional analyses of Hebrew over the centuries: i.e., to take morphological form and pattern as the primary basis for categorization and classification of the so-called "parts of speech" – as will be noted time and again below, in our consideration of such different categories as: *benoni* participles (Chapter Five), copula forms (Chapter Six), infinitives and gerunds (Chapter Nine), and action nouns (Chapter Ten). And we find that, not only in the school-teaching of Hebrew "grammar," but in scholarship in general, morphological patterning has taken precedence both quantitatively and evaluatively over the study of syntax.

Note, next, that Hebrew in general tends to manifest a large amount of enclitic prefixing: thus, the definite marker *ha-* 'the' is a prefix (on Nouns, Adjectives, Demonstratives), and so too is the coordinating conjunction *v-* 'and' and the subordinating conjunction *še-* 'that', as well as the homophonous relative marker *še-*. On the other hand, such affixation has no theoretical significance, for in Biblical Hebrew the separate "word" *kiy* served instead of the subordinator *še-*, just as did the separate word *ašer* for the relativizing *še-*. But this does not mean that Modern Hebrew has become more synthetic in general. On the contrary, the quite general disuse of pronominal suffixes on nouns (noted in Section 3.1.2 above) and on verbs (Section 3.1.3) indicates the converse: that Modern Hebrew usage prefers the more "analytic" alternative, with separate words rather than inflectional endings.

It is further worth pointing out that (as noted in fn. 12 above) Hebrew – while manifesting a rich and varied array of inflectional affixes

– cannot be termed an "inflected language" in the traditional sense. For Nouns, Adjectives, Demonstratives, etc. retain the same surface shape irrespective of their particular syntactic function or "case" relationship (see Section 4.1 below) in a given sentence.

Finally, with respect to the manner in which such inflectional processes as are noted in the preceding sections should be represented in a formal grammar: This is a question which is by no means specific to Hebrew, lying rather in the domain of universal grammar. Clearly those processes which are phonologically determined – such as the form of different inflectional classes for the different *gzarot* 'declensions' of the verb, as dealt with in the section below – can be handled by appropriate phonetic rules. Other alternations and processes may be determined by one or another kind of morphological conditioning (of the kinds noted in Section 2.2 above), and the precise characterization of such processes is liable to be more complex and irregular. Moreover, there is bound to be much information which is a matter of lexical idiosyncracies that must of necessity be listed separately for given entries in the lexicon: e.g., which masculine nouns happen to take the feminine plural ending *-ot*, which nouns can be both masculine and feminine, which segolates take one form in the bound construct state and which another (see Section 2.4.1 above), and so on.

The question which remains of peculiar interest with respect to Hebrew morphology is, however, rather different – and one we alluded to above: are the *binyan* patterns to be considered instances of inflection or not? And if not, how are they to be handled by the grammar? This question – of how the relations between roots and other morphological patterns lying outside of the inflectional system should be represented in the grammar – occupies the major focus of this chapter. Before proceeding to it, however, we comment briefly on the system of verb declensions as noted in traditional Hebrew grammars.

3.2 VERB CLASSES (*GZAROT*)

Any verb-form in the language can be, and traditionally is, classified as belonging to a given declension or *gizra* (literally, 'cutting, derivation') depending on the structure of its root. Thus, roots such as l–t–š, g–m–r, k–t–b are labelled as belonging to the "full" or "complete" declension, *gizrat haŠlemim*. This means that their vowel infixes alternate according to the regular, unmarked or paradigmatic type of pattern illustrated in (1) above for the first conjugation, as well as in all

the other *binyan* patterns in which they occur, and their consonantal structure remains unchanged throughout – with the exception of the spirantization of the stops /b/, /p/, /k/ (and at earlier stages of the language – /t/, /d/, /g/ as well) in certain morphologically and/or phonologically determined environments (see Section 2.2.7).

In very general terms, the "defective" declensions are those containing a low "guttural" element – underlying /ʔ/, /ʕ/, /ħ/, or /h/ – or one of the glides /y/ or /w/ – in some or any of the root positions: initial, medial, final. Traditionally, verbs are then listed by the mnemonic device of citing position in the root together with the consonant that occurs in that position.[13] Compare, for example, the "regular" forms of g–m–r and k–t–b with the defective forms alongside of them in (4) below.

(4) VERB-FORMS BASED ON "FULL" ROOTS COMPARED WITH VERB-FORMS HAVING A LOW CONSONANT OR A GLIDE IN THE ROOT

	"NON-DEFECTIVE" ROOTS	"DEFECTIVE" ROOTS		
		C_1 = ʔ	C_2 = w	C_3 = y
	g–m–r	ʔ–s–q	r–w–c	r–c–y
INFINITIVE *binyan kal*	*ligmor* 'to finish'	*laasok* 'to work'	*laruc* 'to run'	*lircot* 'to want'
PAST TENSE 1st Masc,Sg *binyan kal*	*gamárti* '(I) finished'	*asákti* '(I) worked'	*rácti* '(I) ran'	*racíti* '(I) wanted'
PRESENT TENSE 3rd Fem,Sg *binyan kal*	*goméret* 'finishes'	*oséket* 'works'	*ráca* 'runs'	*roca* 'wants'
INFINITIVE *binyan hifil*	**ləhagmir*	*ləhaasik* 'to employ'	*ləharic* 'to run' (Trans.)	*ləharcot* 'to lecture'
PAST TENSE 3rd Masc,Sg *binyan hifil*	**higmir*	*heesik* '(he)employed'	*heric* '(he) ran'	*herca* '(he)lectured'

Note: Asterisked forms represent accidental gaps in the lexicon of Modern Hebrew. No such words actually occur, but if they did, their phonetic shape would be as indicated above.

These so-called "irregularities" (as shown to the right of the above table) can and should be accounted for by morphophonemic rules, many of which are characterizable in terms of phonological features (e.g., low consonants attract the low vowel [a] ; [v] (=underlying /w/) alternates with its vocalic counterpart [u] much as [y] alternates with [i], etc.). Certain processes can be accounted for only in terms of morphological classes, e.g., the fact that all verbs with a final root-consonant [y] will have the ending *-ot* in the infinitive (though [y] and [t] also alternate elsewhere in Hebrew phonology); or that dental stops metathesize with sibilant initial consonants in the *hitpael* conjugation – compare: *hitbader* 'was amused', *histader* 'was settled', *hitnamek* 'was argued', *hictamek* 'shrank'. A third class of processes must be attributed to specific lexical sub-classes of verbs, e.g., the fact that a given group of verbs has the basic pattern CCaC in the Future and Infinitive forms of the *kal* conjugation instead of the more usual CCoC; or the fact that some but not all verbs undergo deletion of root-initial [n] in the future and infinitive – compare: *nafal* 'he-fell'/*yipol* 'he-will-fall'/*lipol* 'to-fall' with *našax* 'he-bit'/*yinšox* 'he-will-bite'/*linšox* 'to-bite'. (See Chapter Two, particularly Section 2.2 and 2.4.)

Certain inadequacies characterise the accepted treatment and analysis of such phenomena. In some cases, as reflected in school "grammars" (see fn. 10), no clear distinction is drawn between "sound" and "letter," and orthographic conventions are taken as the basis of analysis, even though they represent the facts of pronunciation (certainly of contemporary Hebrew speech) only remotely and very indirectly.[14] A corollary of this non-distinction is the lack of explicit characterization of different kinds of "rules" as well as "exceptions": which sets of forms can be characterized in terms of phonological "classes" of segments and of the phonetic processes which apply to them (as in the case of the *gzarot*), which alternations are morphological "irregularities" applying to all but not only items in a given morphological pattern, to certain lexical items, etc. (For examples of different types of alternations which have overt phonetic consequences, see the preceding chapter, particularly Section 2.2.)

Another possible inadequancy of the apparatus generally used for describing morpho-phonological processes is the traditional dichotomy drawn between the patterning of verbs and of nouns in Hebrew grammar. Thus, a great deal of attention is paid to the declension of *verbs* – as illustrated in (4) above. Yet, in fact, not dissimilar processes are operative in other parts of the lexicon also – most particularly in the system of nouns.[15] Thus, for instance, many of the phonological processes incurred

by the low "gutturals" apply to verbs and nouns alike (see Section 2.3.1 above).[16] It thus seems to us that the notion of "declensions" in the traditional sense of *gzarot* needs to be incorporated within the **phonological** description of Hebrew – in terms of the effect of a given root consonant on the paradigmatic vowel patterns of the language, irrespective of whether the root in question is functioning in a verbal or a nominal environment. And this will also apply to other "irregular" verb-forms such as those with identical medial and final root consonants, quadrilateral roots, etc., so that, ultimately, only a very restricted group of forms (both verbs and nouns) will remain outside of these phonological groupings – just those words whose morphological class membership and whose phonological patterning cannot be derived by a general rule on the basis of Root + Inflections.

3.3 MORPHOLOGICAL PATTERNS: *BINYAN* AND *MIŠKAL*

Below we consider what appear to consitute the most interesting and difficult questions of Hebrew morphological patterning, as noted at the outset of this chapter. These include the nature of the *binyan* system of conjugations or verb patterns, how they should be represented in the lexicon of a formal grammar, and the relationship, if any, between the *binyan* system for verbs and the *miškal* system traditionally associated with nouns and adjectives.

3.3.1 The Verb Conjugations: *binyanim*

Any verbal root in the language can have associated with it a given morphological pattern taken from the set of what are traditionally termed *binyanim* or conjugations (literally, 'constructions, buildings'),[17] and any verb-form of the language – specifically, those noted in Section 3.1.1 above (Past and Future finite verbs, *benoni* Present or participials, non-finite Infinitives, etc.) – can be uniquely characterized as based on a combination of {ROOT + *BINYAN*}. This system is illustrated below with respect to the non-defective or full root q–t–l 'slay'; the finite forms are listed in the 3rd-person masculine singular, the list includes both forms which are and which are not actually occurrent morphemes in the lexicon of Modern Hebrew, and no glosses are provided as the chart illustrates a paradigm of forms alone.

(5) VERBAL FORMS OF THE ROOT q–t–l BY THE DIFFERENT *BINYANIM*

ACCEPTED TERM[a]	*KAL* = *PAAL*	*NIFAL*	*PIEL*	*PUAL*	*HITPAEL*	*HIFIL*	*HUFAL*
NOTATION	B-1	B-2	B-3	B-4_{ps}[b]	B-4	B-5	B-5_{ps}[b]
PAST	katal	niktal	kitel[c]	kutal	hitkatel	hiktil	huktal
PRESENT	kotel	niktal	məkatel	məkutal	mitkatel	maktil	muktal
FUTURE	yiktol	yikatel	yəkatel	yəkutal	yitkatel	yaktil	yuktal
INFINITIVE	liktol	ləhikatel	ləkatel	———[d]	ləhitkatel	ləhaktil	———[d]
ACTION NOUN[e]	ktila	hikatlut	kitul	———	hitkatlut	haktala	———

The following points should be noted in connection with the above paradigm:

(a) The traditional terminology is based on the root letters p–'–l, standing for the verb 'act' and also for the word *póal* 'verb'. The term *kal* 'light' is also widely used to refer to the first conjugation, that of *paal*, distinguishing it from B-3 and B-4, which are considered "heavy" – for reasons noted in (c) below;

(b) The subscript ps is adopted here to refer to the two "passive" *binyanim*, *pual* and *hufal* (or *hofal*), which represent in a totally predictable and regular fashion the passive counterparts of trasitive verbs in *piel* and *hifil* respectively. In this, they are distinguished from, say, *nifal*, which often functions as the passive counterpart of verbs in *kal*, but which has other attributes, also;

(c) The so-called 'heavy' conjugations – *piel*, its passive counterpart *pual*, and its middle-voice counterpart *hitpael* – historically manifested a gemination of the medial root consonant (still reflected in the diacritic system of orthography). This property is disregarded here, as it has little phonetic relevance in contemporary Hebrew; the forms in (5) thus manifest a surface phonemic representation. Similarly, in B-2, the Past and Present forms, both represented here as *niktal*, were originally distinguished by the (at one time phonemically relevant) feature of length on the second vowel, *a*;

(d) These two last rows represent non-finite forms which are morphologically distinct from other verb forms in that the distinction between active/passive voice is neutralized in them. Thus, the paradigm is

defective, for alongside of *sider* 'organized', *sudar* 'was-organized', there is *ləsader* 'to-organize' but no **ləsudar* 'to-be-organized'. and, for B-5, there is *hifil* 'operated', *hufal* 'was-operated' and also *ləhafil* 'to-operate' but no **ləhufal* 'to-be-operated';

(e) The last set of items, representing "action noun" forms (traditionally, *šem pəula*), differ from the rest of the items listed for a number of reasons. Firstly, it is not generally listed along with the other verb-forms in the traditional texts (see fn. 17), no doubt because it is in fact a "nominal" form (the significance of this notion is discussed. in detail in Chapter 10). Moreover, the paradigm for this set of forms is violated in quite unpredictable ways, in the sense that, given a certain combination of {ROOT + *BINYAN*}, the corresponding "action nominal" is not automatically derivable by phonological rule – as is invariably the case with all the rest of the forms listed in (5). For example, given {š–p–t + B-1} 'judge', you get the expected, paradigmatic *šfita* and also the idiosyncratic *šiput* for 'judging, judgment'; or given {n–c–x + B-3} you get the expected *nicúax* 'conducting' but also *nicaxon* 'victory, being victorious'. (See Section 10.3 below for further discussion of this point; we include these forms here as an indication of how the *binyan* paradigm can be extended from verbs to nouns.)

Finally, note that this listing is not exhaustive. There are one or two sub-conjugations which have developed from this basic set and which are used with some degree of productivity in Modern Hebrew. Such outgrowths include a set of forms related to B-3 – *šafel* – formed by a prefixing of š- to the basic *piel* form to yield, for instance, from ħ–z–r, *šixzer* 'reconstruct' or from k–t–b, *šixtev* 'rewrite', etc.; and also *nitpael* as a sort of passive extension of B-5, common particularly in Mishnaic Hebrew, where the *hitpael* prefixal *h-* is replaced by *n-*, as in *nifal*, in the past tense.

The question of how such phenomena be handled within a formal grammar of Modern Hebrew is of more interest, however, than details of morphological structure. Firstly, then, the function of these so-called *binyanim* is to express, in relation to a given verb-root, syntactic processes universally associated with the verbal system, and manifested by various surface devices in different languages. Thus, in Hebrew such phenomena as Transitivity, Voice (active, passive, middle), Causativeness, Inchoativeness, Ingression, Reflexivity, and Reciprocality are generally morphologically marked in the verb-form itself, by means of a given *binyan* pattern. Such processes are briefly illustrated below.

(6) ILLUSTRATION OF SYNTACTIC PROCESSES REFLECTED IN THE *BINYAN* FORM OF VERBS WITH A SHARED ROOT

(i) VOICE

a. Active: dan imen[B-3] et hacévet
Dan trained OM the team

Passive: hacévet uman [B-3_{ps}] al ydey dan
the team was trained by Dan

Middle: hacévet hitamen [B-4]
the team trained (=practiced)

b. Active: dan histir [B-5] et hainyan
Dan hid OM the matter

Passive: hainyan hustar [B-5_{ps}] al ydey dan
the matter was hidden by Dan

Middle: hainyan nistar [B-2]
the matter was hidden (=was invisible)

(ii) CAUSATIVENESS

a. hapraxim gadlu [B-1] bagina
the flowers grew in the garden

dan gidel [B-3] et hapraxim bagina
Dan grew (=raised) OM the flowers in the garden

b. dan yaraš [B-1] harbe késef (mehazkena)
Dan inherited much money (from the old lady)

hazkena horiša [B-5] harbe késef ləDan
the old lady left (=bequeathed) much money to Dan

(iii) REFLEXITIVITY

a. dan lavaš [B-1] et haməil
Dan wore (=put on) OM the coat

dan hilbiš [B-5] et hatinok
Dan dressed OM the baby

dan hilbiš [B-5] et acmo ~ dan hitlabeš [B-4]
Dan dressed OM himself Dan dressed

b. dan giléax [B-3] et haragláyim šelo
Dan shaved OM his legs

Dan giléax [B-3] et acmo ~ dan hitgaléax [B-4]
Dan shaved OM himself Dan shaved

(iv) INCHOATIVENESS

a. habasar kar ~ habasar hitkarer [B-4]
the meat (is) cold the meat got cold

b. hapri haya bašel ~ hapri hivšil [B-5]
the fruit was ripe the fruit ripened

(v) INGRESSION

a. dan amad [B-1] al hašulxan
Dan stood on the table

dan neemad [B-2]
Dan stood up (=got up)

b. dan niškav [B-2] (bamita)
Dan lay down (in bed)

dan šaxav [B-1] bamita
Dan lay in bed

A detailed analysis of the various notions and processes illustrated above is not undertaken here: the underlying, universal characterization of such processes as passivization, causativity, etc. has been discussed at length both in traditional grammar and in more recent generative studies; and the nature of these processes in Modern Hebrew has been the subject of several recent studies (see Ariel 1969, summarized in Ariel 1972b; Berman 1973, Chapter Three; Sadka 1974). What concerns us here is the special kind of morphological realizations borne by such phenomena in Hebrew.[18] How can and should the relationship between the two elements of Root and Conjugation be represented in the lexicon of a Hebrew grammar?

3.3.2 Lexical Representation of Verbs[19]

Logically speaking, there are three possible ways of approaching the problem: in terms of total regularity, total anomaly, and lexical redundancy. Below each is examined in turn.

a) TOTAL REGULARITY

This approach takes the view that the consonantal root is the lexical "prime" in a language such as Hebrew, the various morphological patterns associated with it (i.e., the *binyanim* for the verbal system) being no more than obligatory additives which are connected to the roots in regular and predictable ways. In other words, the function or sense of the *binyanim*

can be characterized in much the same way as various other grammatical categories – such as tense, number, gender – assigned to verbs by processes of inflection. Any given combination of {ROOT + CONJUGATION} will have a clear and unambiguous interpretation, as an automatic consequence of the combination of the meaning of the root with the meaning of the *binyan*. This is the view adopted in the traditional characterization of Biblical Hebrew as summed up, for instance, by Gesenius:

> "From the pure stem, or *kal*, the derivative stems are formed according to an unvarying analogy [emphasis added] in which the idea of the stem assumes the most varied shades of meaning, according to changes in its form.... In other languages such formations are regarded as new or derivative verbs.... In Hebrew, however, these formations are incomparably more regular and systematic [emphasis added] and ... [they] are always treated together in the grammar and the lexicon" (1910, 115).

This view of the root as carrying a basic meaning or sense is reiterated in textbook treatments of Hebrew morphology (e.g., Blau 1967, Ornan 1963, Rosen 1962, 288); for claims that the morphological patterns also have their own distinct "additive" meaning, see Goshen-Gottshtein *et al.* 1967, Naor 1962, Sadka 1975.

The form of a lexicon based on this view might be characterized as follows: There would first be given a detailed description of the semantic interpretation and syntactic functions of each conjugation separately; then the various verb entries of the lexicon would be listed – either as the root alone, or in the "pure stem" form of B-1 – along with their particular, idiosyncratic interpretations. Thus, for example, the form *raa* 'see' – {r–?–y + B-1} – would be listed with an appropriate dictionary definition (say, that what is involved here is "visual perception"); and no separate explanations would be necessary for such forms as B-2 *nira* – today meaning both 'be seen' and 'seem, appear, look', B-4 *hitraa* – a recent coinage with the reciprocal sense of 'seeing = meeting one another', B-5 *hera* 'show, manifest', for the interpretation of these latter forms would be automatically derived from the "meaning" of *raa* plus the functional load of the various other *binyanim*.

The major inadequacy of this very neat and hence appealing approach to the problem is its incompatibility with the facts of Hebrew – certainly as spoken today. Examples of irregularities, which quite probably did not apply at some earlier stage of the language, abound in contemporary usage. Below we shall merely point out a few of the more obvious

idiosyncracies manifest in contemporary usage. Let us, for argument's sake, accept the claim that *hitpael* B-4 has the sense of reciprocality or of reflexiveness, and that *hifil* B-5 is generally the causative or inchoative counterpart of *kal* B-1. How can we account for the relationship between, e.g., *ganav* 'steal (Trans)', *hitganev* 'steal, sneak (onself) quietly (so as not to be observed) into (a place)', *higniv* 'smuggle, sneak or steal something in'? True, *hitgaléax* 'shave oneself' is the reflexive counterpart of *giléax* B-3, but *hictalem* does not mean 'photograph onself' but rather 'have a photograph taken of onself', and *hitlamed* does not really mean 'teach onself' but something like 'be apprenticed, be in training'.[20] The B-5 form *hivri* can still be taken as the inchoative manifestation of the root b–r–? as 'become healthy', but B-5 *hexliš* now means 'make weak', alongside of the B-2 form *nexlaš* 'become weak'. The B-5 form *hizkin* is still used for inchoative 'become old', but B-5 *hizdaken* is used far more commonly today for the same sense. Nor can *hodía* {y–d–' + B-5} be explained away simply as a combination of B-1 *yada* 'know' + B-5 since *hodía* has quite clearly the sense of 'inform' and is probably not associated with any kind of causative notion in the mind of the ordinary Hebrew speaker. Consider finally the connection between B-1 *paal* and B-2 *nifal*; in Modern though not in Classical Hebrew, the latter is quite regularly the passive counterpart of the former: thus, *ganav* 'steal'/*nignav* 'be stolen', *gamar* 'finish'/*nigmar* 'be-finished', *lakax* 'take'/*nilkax* 'be taken'. Yet even here there are numerous deivations: *pagaš* 'meet' / *nifgaš* – not 'be-met' but 'meet with' or reciprocal 'meet one another', *raa* 'see / *nira* 'seem', *laxam* 'fight' / *nilxam* 'fight' in everyday usage, etc.

Perhaps the strongest argument against this approach, however, is the lack of independent semantic content in terms of morphological pattern. We refer here to the fact that there are pairs of largely synonymous words – differentiated, if at all, solely on the stylistic level, where the one may be viewed as more formal or less colloquial than the other – existing side by side in two different *binyanim*; thus, B-1 *pakad*/B-3 *civa* 'command, order'; B-1 *amar*/B-5 *higid* 'say, tell'; B-3 *šier*/B-5 *henía x* 'suppose, assume'; B-1 *samax*/B-2 *nišan* 'lean (on)'; B-4 *histakel*/B-5 *hibit* 'look (at)'; B-1 *cafa*/B-5 *hiškif* 'observe, watch'; B-1 *kaval*/B-4 *hitlonen* 'complain'; B-3 *xilec*/B-5 *hicil* 'rescue'; B-3 *xika*/B-5 *himtin* 'wait'; B-3 *xided*/B-5 *hišxiz* 'sharpen'; etc. And here, as noted in fn. 6 above, we ignore the problem of words which happen to have the same root for historical reasons, even though they are unrelated semantically.

Two further problems need to be noted in this connection. Firstly, the view outlined above, of "total regularity," implies a complete separa-

tion between the verbs of Hebrew to be characterized in terms of *binyan* patterns, and all other lexical items – including nouns and adjectives – in the language. Yet as noted at the outset of this chapter, such words can also be viewed in very many cases as made up of a Root + Morphological Pattern. This is a question to which we return below.

A second problem arising out of this approach is its lack of attention to the "accidental gaps" with which the system abounds. That is, there are no roots which are actually used in all of the five *binyanim* listed in (5) above (disregarding the two purely passive sets of *pual* and *hofal*) in the current lexicon of Hebrew. Certain "systematic" gaps may also be detected, but these can generally be accounted for in terms of phonological constraints on the concurrence of certain classes of consonants within a single root (see Greenburg 1950).[21]

The fact that the full range of *binyanim* is not put into actual use for a given verb root – either in classical or Modern Hebrew – seems to be of more than statistical import. It would lead one to suppose that properties such as Passiveness, Causativeness, Transitivity, etc. are manifested now by one *binyan*, now by another, depending quite idiosyncratically on the given verb. This is in fact implicit in the examples in (6) above, and is briefly illustrated further in (7) below.

(7) ILLUSTRATION OF SYNTACTIC PROPERTIES MANIFESTED IN DIFFERENT *BINYAN* PATTERNS

(i) ACTIVE/PASSIVE

B-3/B-3_{ps}	sider/sudar	'arrange'
	picel/pucal	'split'
B-3/B-4	kibel/hitkabel	'receive'
	bikeš/hitbakeš	'request'

(ii) CAUSATIVENESS

B-1/B-5	lavaš/hilbiš	'wear/dress'
	yaca/hoci	'go-out/take-out'
B-1/B-3	samax/siméax	'be-glad/make-glad'
	lamad/limed	'learn/teach'

(iii) TRANSITIVITY (Middle Voice)

B-3/B-4	pitax/hitpatax	'develop'
	yišer/hityašer	'straighten'
B-2/B-5	nixna/hixnía	'surrender'
	nirdam/hirdim	'fall-asleep/put-to-sleep'

One possibility worth considering, which lies outside the field of our present inquiry, is that certain semantic constraints restrict the association of given specific processes or properties with given sets of meanings. Thus, for instance, it is quite clear why the verb *garam* 'cause' lacks a causative counterpart, and why basically intransitive verbs, or at all events verbs which do not require a "patient" type NP, do not generally have passive counterparts.[22] But even here the anomalies abound. Thus, for example, the verb *nirdam* 'fall asleep' has a causative counterpart *hirdim* 'put to sleep, anesthetize'; but the verb *yašen* 'sleep, be asleep' has no such counterpart. And why do most verbs of movement, such as B-1 *na* 'move', *halax* 'go', *rac* 'run', *nasa* 'travel', *kafac* 'jump', have causative counterparts, while B-1 *azav* 'leave' and B-3 *tiyel* 'take a walk' do not have any? As a final instance of such anomalies, consider the much discussed relationship between 'die' and 'kill' (see Fodor 1970 and Postal 1970a): B-1 *met* 'die' has a causative counterpart B-5 *hemit*, used in a much more restricted sense (roughly 'put to death') than is B-1 *harag* 'kill', which has no derivative forms in other *binyanim*.

In view of these anomalies, which must make us assume that the Hebrew speaker has a vast amount of incidental, idiosyncratic lexical information at his disposal with respect to the relationships between verb-roots and *binyan* patterns, we must reject the view of "unvarying analogy" or "total regularity" as an attempt to superimpose a historical relic in order to systematize what is no longer systematic. Let us, then, consider the opposite solution, that of total anomaly.

b) TOTAL ANOMALY

According to this view, the "word" is the lexical prime in Hebrew for verbs as well as for nouns and other categories (see, for instance, Ornan 1971a, 1971b and Schwarzwald 1974, 1975). That is, the lexical entry should be composed of the root together with a given *binyan* pattern for verbs — for neither the root nor the *binyan* alone can be taken to have independent value. The combination of {ROOT + BINYAN} then forms a single indivisible unit with its own specific semantic and syntactic (as well as phonological) properties. Thus the only connection to be noted between such forms as *nixnas* 'enter (a place)', *kines* 'gather together

(Trans)', *hitkanes* 'gather together, assemble (Intrans)' and *hixnis* 'introduce (into a place)' or *ahav* 'love', *neehav* 'be loved', and *hitahev* 'fall in love' is the fact that they have a common consonantal root.

There are at least two advantages to this point of view: it eliminates the problem of irregular, idiosyncratic inter-relations illustrated in the preceding section, and it enables one to adopt a uniform descriptive framework for most of the items in the lexicon – verbs, nouns and even adjectives. By this claim, such verbs as *šamar* 'to-guard', *šimer* 'preserve', *hištamer* 'be-retained, keep' (as in 'keep in good shape') are as unconnected to each other as are nouns such as *mišmar* 'guard (of honor)', *mišmeret* 'watch' (in the sense of 'shift at work or on duty'), *šimurim* '(canned)-preserves', *šamran* 'a-conservative'. As noted earlier, we consider the inter-relationships and correspondences, if any, between the two traditional categories of (verbal) *binyanim* and (nominal) *mišKalim* in the following section, for the time being assuming that there is some virtue in treating them separately.

Quite apart from this issue, however, the "total anomaly" view must be questioned if it is understood to ignore any common property other than a mere phonological coincidence of shared root consonants. For each such consonantal configuration does embody some basic semantic notion or "core". Thus, for example, ignoring certain metaphorical extensions, all the following have something to do with the act of giving graphic representation (generally on paper) to linguistic units: the verbs *katav* 'write', *hixtiv* 'dictate', *hitkatev* 'correspond (by letters)', and the nouns *ktiv* 'spelling, orthography', *ktav* 'handwriting', *mixtav* 'letter (missive)', *mixtava* '(writing)-desk', *katav* 'a-reporter, newsman' and even *któvet* 'address, inscription'; similarly, all the following have something to do with visual perception: the verbs *raa* 'see', *nira* 'seem, appear', *hera* 'show', *hitraa* 'see. meet-with', and the nouns *rəut* 'visibility', *mare* 'sight, scene', *mara* 'mirror', and *rəiya* 'sight, vision'. So it seems quite wasteful and rather counter-intuitive to deny some independent semantic content to the root qua root, unrelated to any given morphological pattern.

Another weak point in this view is that it denies the existence of certain syntacto-semantic properties associated with a given *binyan* form which relates it to verbs having the same root in other *binyanim*. We refer to the properties shared by such forms as: B-2 *nigmar* 'be-finished', *nixtav* 'be-written', *nignav* 'be-stolen', *nilkax* 'be-taken' – all representing [+PASSIVE] counterparts of the same root in B-1; B-3 *siméax* 'gladden', *šiken* 'house, locate', *gidel* 'grow' – all [+TRANSITIVE] counterparts of intransitive B-1 forms; B-5 *hidlik* 'ignite', *hizrim* 'cause to flow, flood',

hicxik 'amuse, make laugh' – all [+CAUSATIVE] versions of B-1 verb-forms; B-5 *hivšil* 'ripen', *hexvir* '(become) pale', *hexšix* 'darken' – [+INCHOATIVE] versions of adjectives with the same roots; and B-4 forms such as *hitrau* 'see (each other)', *hitkatvu* 'correspond (with each other)' *hitahavu* 'fall in love', *hitnašku* 'kiss (each other)' – [+RECIPROCAL] versions of B-1 or B-3 verbs.

The problem is, then, that the claim of total anomaly is unable to capture certain generalizations about the *binyan* system which we claim do apply in Modern Hebrew. Berman 1975c investigated how these *binyanim* are actually manifested in Modern Hebrew, basing the study on a fairly exhaustive list of verbs (those found in contemporary Hebrew usage from among the total set of forms listed by Barkali 1965 and Even-Shoshan 1968). This investigation revealed the following:

(8) SALIENT PROPERTIES OF CERTAIN *BINYAN* PATTERNS IN MODERN HEBREW

(i) B-2 *nifal* [-TRANS]
a) Passive reflex of B-1
b) Intransitive reflex of B-5

(ii) B-3 *piel* [+TRANS]
"Basic Form" – a notion to be clarified below.
Takes a Patient NP marked by *et* (object marker);
Has a Passive reflex in B-3_{ps}

(iii) B-4 *hitpael* [-TRANS]
Intransitive reflex of B-3

(iv) B-5 *hifil* [+TRANS]
a) Causative reflex of B-1
b) Transitive reflex of B-2

This listing is merely illustrative, and the exceptions – as noted in Section 3.3.2a above – are manifold. Yet it seems quite clear that each *binyan* can be said to have certain salient or "unmarked" properties; for instance, B-2 is nearly always intransitive and quite often passive; B-3 is

quite generally transitive; B-4 is most often intransitive and sometimes expresses reflexiveness or reciprocality, etc. Such quite general characteristics are not accounted for by the claim of "total anomaly."

The question of the psychological reality of these "general properties" associated with each *binyan* is, of course, crucial, for our claims in this connection have so far been oriented mainly in the direction of statistical preponderance of one use or another. It is extremely difficult to elicit reliable information concerning native speakers' intuitions of these relationships for the same reason that it is hard to do so in general with native Hebrew speakers beyond the grade school age: in school, the "functions" or "meanings" of the *binyanim* are generally dealt with in terms of the traditional categories established by medieval Hebrew grammarians and still adhered to by advocates of the "total regularity" approach – so that even if informants are requested to ignore what they were told at school, they have difficulty in isolating their strictly intuitive perception of such notions. Berman 1975c reports one attempt to check the intuitions of adult Hebrew speakers with respect to words made up out of existing Hebrew roots in a *binyan* pattern not used for them in the contemporary lexicon. In order to investigate how native Hebrew speakers do in fact intuitively perceive the *binyan* system, more such tests must be evolved and elaborated, especially ones for children of 8-12 years old, who already have a fairly large vocabulary but who have not studied the *binyan* system as part of their school course in "grammar."[23]

Beyond such evidence, another perhaps more reliable source is that of recent coinages, a phenomenon which is very common in Hebrew for two reasons: firstly, the socio-cultural need of a renascent language to expand its capacity for "naming"; and, secondly, the root-based nature of the lexicon of Hebrew, which makes it possible to incorporate new notions by combining native roots in the established set of morphological patterns (*binyanim* and *miškalim*) to form any number of new lexical items which conform perfectly to the morphophonological structure of the language. Just a few instances will be cited here to show that in fact "total anomaly" is not the case with respect to the *binyan* system in contemporary usage.

Traditionally, B-1 *kal* is regarded as the "pure" stem or "basic" pattern. Our claim, that both B-1 and B-3 are to be regarded as "basic" or "non-additive," is reinforced by the fact that almost all new denominative verbs occur in B-3 (see, for instance, Sivan 1963, especially pp. 135-37). Thus, for instance, *makom* 'a place'/*mikem* 'to situate', *moked* 'centre'/*miked* 'to focus', *atar* 'a site'/*iter* 'to locate', *bul* 'a stamp'/*biyel* 'to

stamp', *šuk* 'a market'/*šivek* 'to market', *bama* 'stage'/*biyem* 'to stage, produce', *siyd* 'whitewash'/*siyud* 'to whitewash', *iyš* 'a man'/*iyeš* 'to man', etc.[24] Similarly, new coinages in B-4 are likely to have a [+RECIPROCAL] interpretation: thus, *hitraa* 'see one another', *hištamea* 'hear one another', *hictalcel* 'call one another'; and new words in B-5 – often still with a "slang" status[25] – will have a [+CAUSATIVE] interpretation: e.g., *heeziv* 'cause to leave, fire, sack' (from B-1 *azav* 'leave').

The two approaches outlined above represent quite distinct views of the nature of word-formation in Hebrew in general and the peculiar properties of its verb-system in particular. The first view, of "total regularity," considers *binyan* conjugation classes as part of Hebrew inflectional morphology; the second view, of "total anomaly," views *binyan* patterns as an accident of morphological form alone (and in this connection, see the title of Ben-Asher 1972a). It seems to us, however, that the association of a given *binyan* pattern with a given verb-root needs to be viewed as lying outside of both the traditional areas of inflectional and derivational morphology (see, for instance, Matthews 1974, Chapter III) as a peculiar property of Hebrew, as language which manifests many traces of its Semitic origin as well as considerable blurring of certain peculiarly Semitic properties (see Section 2.0 above and also Chapter Twelve of this book). Against this background, we suggest a kind of "compromise" view in relation to the lexical entering of verbs in Hebrew.

c) LEXICAL REDUNDANCY

As noted, the view taken here is intermediary between the two more extreme positions outlined above, and it attempts to take account of two interrelated sets of variables simultaneously: (i) the syntactic processes manifested by the *binyan* system in general – such as transitivity, causativeness, inchoativeness, reciprocality, etc. – and (ii) the specific properties of each *binyan* in itself.

The first question here is what constitutes the "basic form" of any verb in the language. For it is this basic form which needs to be entered at the head of any given set of verbs in the language, along with an indication of its idiosyncratic semantic and syntactic features. All other related verb forms (where the notion "related" means "having a shared morphological and semantic base") are then characterized as deriving from and based upon this "basic form" in the sense that they incorporate additional properties to be associated with the given base. Below we illustrate this approach with respect to the root l–b–š, 'wear (clothes)',

(9) ILLUSTRATION OF LEXICAL REPRESENTATION OF VERBAL ENTRIES FOR THE ROOT l–b–š

(i) B-1 *paal* Basic Form (*lavaš*)

$$\left\{ \text{NP}\begin{bmatrix}+\text{HUMAN}\\ +\text{AGENT}\end{bmatrix} — \text{NP}\begin{bmatrix}+\text{ARTICLE OF CLOTHING}\\ +\text{ACCUSATIVE}\\ -\text{PASSIVE}\end{bmatrix} \right\}$$

(ii) *paul*[26] Stative (*lavuš*)

$$\text{NP}\begin{bmatrix}+\text{HUMAN}\end{bmatrix} — (b\text{ə})\text{NP}\begin{bmatrix}+\text{ARTICLE OF}\\ \text{CLOTHING}\end{bmatrix}$$

(iii) B-4 *hitpael* Reflexive (*hitlabeš*)

(iv) B-5 *hifil* Causative (*hilbiš*)

The idea is that the major properties of any verb with the root l–b–š are represented in the very first line, under the listing of "Basic Form." (Note the following omissions: there is no attempt at a semantic characterization of the given verb – surely a universal problem and one which implies the circularity of our indicating "article of clothing" as the appropriate type of object NP; and we ignore metaphorical usages such as *lavaš cura* literally 'wear a-form', in the sense of 'take the shape of'.) What the first line indicates is that the basic form of the verb is transitive, requiring a human agent NP and a patient NP which is restricted to the semantic category of "article of clothing" (Hebrew requires other verbs for English 'wear' in relation to jewelery, footwear, etc.); though the patient NP takes the Accusative or Direct-Object form, as manifested by the Object Marker *et* (*hu lavaš et hamə́il hayarok* 'he wore OM the green coat'), the verb itself does not undergo passivization: thus there is no **hamə́il nilbaš* 'the-coat was-worn'. This provides an example of how idiosyncratic information needs to be recorded. For the vast majority of verbs requiring an accusative-type patient NP can and do undergo passivization and, if the basic form is in B-1, the passive counterpart will be B-2. This piece of information would be contained in the "redundancy rule" section of the lexicon, so that given a patient NP which is marked as [+ACCUSATIVE], the marking [+PASSIVE] may be considered redundant. The very small set of verbs like *lavaš* which violate this generalization (see Section 4.3) require more specific information: the combination of {[+ACCUSATIVE], [-PASSIVE]}. In a parallel fashion, a general rule would establish that, for Hebrew (unlike, say, English) any verb requiring a Patient NP and governing a prepositional marker other than *et* will not

undergo passivization. This rule would mean that verbs such as *samax al* 'rely upon', *paxad mi-* 'fear from', *kine bə-* 'envy' would be listed as requiring patient NP's indicated as [+GOVERNMENT$_x$] — the subscript referring to the specific preposition associated with a given verb. Again, a few exceptions would need to be noted — e.g., *tamax bə-* 'support', *hišpía al* 'influence (on)' — as having the idiosyncratic, irregular combination of features for their patient NP{[+GOVERNMENT$_x$], [+PASSIVE]}.

The second line of (a) above indicates that *lavaš* has a stative counterpart in the *paul* pattern, realized as *lavuš*, which can but need not be followed by an NP, as in *hu haya lavuš bimə́il yarok* 'he was dressed in (was wearing a) green coat' or without any prepositional marker, *hu haya lavuš mə́il yarok* or *hu haya lavuš (bəelegantiyut)* 'he was dressed (elegantly)'. Note that this basic relationship between a Human Agent NP and a Patient NP with the feature of "article of clothing" is preserved in the Reflexive and Causative transformations of l–b–š, B-4 *hitlabeš* 'got dressed, dressed (himself)' and B-5 *hilbiš* 'dress (someone else)', respectively.

Clearly, if the lexicon is viewed essentially as a listing of the idiosyncratic properties of lexical items occurring in a given language, then there is no need to specify such notions as Reflexive or Causative separately for the item presently under discussion. Such notions will be characterized in a general, uniform fashion for all the items in the lexicon to which they might apply — let us say, right at the outset of the lexicon, before the listing of individual items — and it would then obviously be redundant to repeat the same information for each specific item. This situation can be illustrated with respect to the realization of the [+CAUSATIVE] form of l–b–š, the letter ϵ indicating the particular case-marker required by a given verb form in the context represented below.

(10) THE SURFACE CONTEXT OF THE CAUSATIVE VERSION OF THE ROOT l–b–š

$$\text{NP}\begin{bmatrix}+\text{AGENT}\\+\text{HUMAN}\end{bmatrix} \text{ —— NP}\begin{bmatrix}+\text{GOAL}\\+\text{HUMAN}\end{bmatrix}_{\epsilon=et} \text{ —— NP}\begin{bmatrix}+\text{PATIENT}\\+\text{ARTICLE OF CLOTHING}\end{bmatrix}_{\epsilon=et,\,bə\text{-}}$$

This specific, idiosyncratic information is required to account for such expressions as the following:

(11) haav hilbiš et hayéled et haməil
the father dressed OM the child OM the coat
haav hilbiš et hayéled baməil
the father dressed OM the child in the coat

both meaning something like 'the father put the child's coat on him (=the child)'. The two well-formed expressions in (11) depart from the normal or unmarked form for causative expressions with a three-place predicate, taking the surface form of {(AGENT) + PATIENT + GOAL} or more commonly, {(AGENT) + GOAL + PATIENT}, as illustrated below:

(12) (i) haav hilbiš et haməil layéled ~ layéled et haməil
the father put on OM the coat to the boy

(ii) hu hixtiv mixtav lamazkira ~ lamazkira mixtav
he dictated (a)letter to the secretary

(iii) hem hišílu séfer labaxur ~ labaxur séfer
they lent (a)book to the fellow

(iv) hu horiš késef lanxadim ~ lanxadim késef
he bequeathed money to the grandchildren

where in (i) *hilbiš* is the B-5 form of *lavaš* 'wear', in (ii) *hixtiv* is the B-5 form of *katav* 'write', in (iii) *hišil* is the B-5 form of *šaal* 'borrow', and in (iv) *horiš* is the B-5 form of *yaraš* 'inherit'.

The examples in (12) show the normal surface form of sentences with a Dative(=Goal) NP, where the latter is marked by the preposition *lə-*, taking the form *la-* when the NP to which it attaches is definite. Thus, the "basic forms" noted above, such as *katav, šaal, yaraš* will not need additional information of the kind represented for *lavaš* in (10) above, in view of the forms noted in (11). Another idiosyncratic feature which would have to be noted for l–b–š is that when its [+CAUSATIVE] form is passivized, both the Patient and the Goal NP can become the surface subject – a phenomenon which is quite atypical of Hebrew passives, as shown below.

(13) (i) a. haməil hulbaš
the coat was put on (the boy)

b. hayéled hulbaš
the boy was dressed (by his father)

(ii) a. hamixtav huxtav
the letter was dictated

b. *hamazkira huxtəva
the secretary was dictated (to)

(iii) a. hakésef huraš
the money was bequeathed
b. *hanxadim huršu
the grandchildren were bequeathed (the money)

(iv) a. haséfer nitan (layéled)
the book was given (to the boy)
b. *hayéled nitan et haséfer
the boy was given OM the book

The view taken here on the general question of the lexical representation of Hebrew verbs thus has two main facets. Firstly, all properties and relationships which are general and regular across the lexicon can and should be characterized in a special sub-component of the lexicon containing all relevant redundancy rules – phonological and semantic as well as syntactic. An example of a redundancy rule of this kind would be the following characterization of the surface form of three-place causative predications as illustrated by the sentences in (12) above;

(14) THE NORMAL SURFACE CONTEXT OF THREE-PLACE CAUSATIVES

$$\begin{bmatrix}\text{NP}\\ \text{AGENT}\end{bmatrix}_{\epsilon = \emptyset} \quad \begin{bmatrix}\text{———}\\ \text{B-5}\end{bmatrix} \quad \begin{bmatrix}\text{NP}\\ \text{PATIENT}\end{bmatrix}_{\epsilon = et} \quad \begin{bmatrix}\text{NP}\\ \text{GOAL}\end{bmatrix}_{\epsilon = l\text{ə-}}$$

The above is obviously no more than a rough and ready, informal representation of the requisite information – as are the representations in (9) and (10) above. For instance, the case-marking prepositions listed above would not take the form of letters of the alphabet, but of a constellation of semantic and phonological distinctive features.

The second facet of our proposal relates to the way we view the notion of "basic form" and the unmarked properties of the various *binyan* patterns. The first line of any entry will, as noted, list the basic form of a given verb-root (most generally, and quite unpredictably this will be either B-1 *paal* or B-3 *piel*, and very occasionally in some other *binyan*, e.g., in B-2 – *neelam* 'disappear', *nixna* 'surrender', *needar* 'be absent'; in B-4 –

histakel 'look', *histoded* 'tell secrets'; or in B-5 – *hitxil* 'begin', *heezin* 'listen' – denominatives occurring quite often in the latter.) All other subparts of the same entry will list the other *binyan* patterns in which the given root happens to function in contemporary usage (except where this is predictable by general rule, such as where as B-3 verb has a passive counterpart in B-3_{ps}) and the specific properties and processes which can be expressed for the given verb-root by means of these *binyan* patterns. Regularities, such as the fact that a transitive verb takes a patient NP in the accusative, marked by the preposition *et*, or that a transitive verb of this type with a basic form in B-1 has a passive counterpart in B-2 and a causative counterpart in B-5, will not be noted for each entry individually. It is only the irregular or anomalous phenomena – which, as noted in the preceding sections, abound in the *binyan* system of Modern Hebrew – that will need to be listed separately for each item.

In summary, then, it would seem to us that this kind of compromise view is most appropriate to the semi-productive nature of the *binyan* system in contemporary Hebrew. For we must suppose that the native speaker has at his disposal both kinds of knowledge: an intuition of the salient properties and functions of each *binyan* in itself, coupled with a considerable amount of idiosyncratic information regarding the specific lexical interpretations of given verb-forms and their interrelations with other verbs sharing the same root and some common semantic content.

3.3.3 Nominal Patterns: *miškalim*

As noted earlier, a sharp distinction is generally drawn (in dictionaries, textbooks, etc.) between the *binyan* system and all other morphological patterns in the language – specifically, those associated with Nouns and Adjectives (the two being quite generally treated together as "substantives" in traditional Hebrew grammar). Yet, as noted at the outset of this chapter, just as any verb-form in the language can be identified in terms of a given *binyan* pattern, so other lexical items in the language – at all events, those of the "contentive" or lexical formative type such as Nouns, Adjectives (and to some extent Adverbs) – can be characterized in terms of a fixed and finite set of morphological patterns. These patterns can all be viewed as consisting of a given consonantal root with associated affixes – syllabic prefixes and suffixes and vowel infixes. (This eliminates from consideration the small group of "basic" nouns referred to at the outset of this chapter.) The situation can be illustrated as follows:

(15) ILLUSTRATION OF *MIŠKAL* PATTERNS

(a) CaCCan:	*rakdan*	'dancer'	*saxkan*	'player'
	paršan	'commentator'	*paxdan*	'coward'
	batlan	'loafer'	*šatyan*	'drunkard'
(b) CaCiC:	*gamiš*	'flexible'	*šamiš*	'usable'
	parix	'crisp, crumbly'	*kari*	'legible'
	šavir	'breakable'		
(c) maCCeC:	*maghec*	'iron'	*macpen*	'compass'
	mašpex	'funnel'	*masmer*	'nail'
	mavreg	'screwdriver'	*maftéax*	'key'
(d) miCCaCa:	*mispara*	'barbershop'	*misada*	'restaurant'
	mizbala	'rubbish-dump'	*mirpaa*	'clinic'
	miltaša	'diamond-polishing plant'	*minhara*	'tunnel'
(e) CaCéCet:	*šaélet*	'whooping cough'	*xazéret*	'mumps'
	adémet	'measles'	*kalévet*	'rabies'

The above look elegantly regular: (a) obviously represent agent-nouns, (b) adjectives with the sense of 'susceptible to a given action', (c) instruments, (d) places where given activities are undertaken, and (e) diseases. Unfortunately, the anomalies here are even greater than in the *binyan* system. Thus, for each of the categories illustrated above, the following can be noted:

(a) (i) The notion of "agent-noun," even when restricted to humans, is itself relatively complex; it includes at least the two categories of "occupations" – both in the sense of an activity one engages in habitually and in the sense of the way one earns a living – and it also includes personality traits; that is, it includes both states and activities. The forms show in (15-a) are, however, traditionally termed *baaley mikcóa* 'professions, trades'.

(ii) The notion of "agent" in the sense of "activity" can be rendered by a variety of patterns in Hebrew, most particularly (in addition to CaCCan) CaCaC as in *ganav* 'thief', *tabax* 'cook', *katav* 'correspondent', *satat* 'stonemason'; the present-tense form of verbs in the different *binyanim*, as B-1 *šomer* 'guard', *šofet* 'judge'; B-3 *mətavex* 'agent', *mənahel* 'director'; B-4 *mitnadev* 'volunteer', *mistanen* 'infiltrator'; B-5 *manhig* 'leader', *malxin* 'composer'; and noun-related forms ending in *-ay* such as *xaklay* 'farmer', *itonay* 'journalist', *xašmələy* 'electrician' (see Section 11.3 for further discussion).

(iii) There is no semantic basis to the choice of a given pattern, in terms of the meaning of the root or base verb. Thus, the following words all have the sense of 'liar, deceiver': B-1 *noxel*; CaCCan *šakran*, *zayfan*; CaCaC *ramay*; or of 'thief, robber, burglar': B-1 *šoded*, CaCCan *gazlan*, CaCaC *ganav*.

(b) (i) The same pattern CaCiC is used for adjectives which cannot be interpreted as 'susceptible' to a given activity'; thus, *samix* 'thick', *yail* 'efficient', *pail* 'active', *bari* healthy'.

(ii) The same pattern is used for nouns, e.g., both the agent *pakid* 'clerk' and a word like *šamir* 'dill' – and many more if we ignore differences of orthography which have no phonetic significance today.

(c) (i) As in the case of (a), other patterns, too, serve to indicate instruments, in the sense of "objects used for a specific purpose": thus, *garzen* 'axe', *misparáyim* 'scissors' (from the root s–p–r 'to cut'), *potxan* 'opener' (compare with *maftéax* 'key', both from the root p–t–ħ 'to open'.)

(ii) Some of these words can be interpreted as "things used to *Verb*": thus, *maghec* '(an) iron' is related to *gihec* '(to)iron', and, as already mentioned, *maftéax* 'key' to *patax* '(to)open'. But no clear connection to a given verb is today evident for, say, *macpen* 'compass' (cf. *cafon* 'north') or for *masmer* 'nail' or *malben* 'rectangle'.

(d) (i) As in the case of (a) and (b), there are other patterns with the same function – *mitbax* 'kitchen', *misrad* 'office' – and again, the relationship between the base-verb and the nominal form is indirect and unpredictable. For example, *misada* 'restaurant' derives from *saad* 'dine' and not from the more usual *axal* 'eat'.

(ii) Native speakers tend to use other, so-called 'sub-standard' pronunciations of this pattern, specifically maCCeCa – as in *maspera*, *marpea* – possibly by analogy with forms where the low initial root

consonant incurs the low vowel /a/, as in *maabada* 'laboratory' from the root '–b–d 'work', *maatefa* 'envelope' or even [maatafa] from the root '–t–p 'wrap', etc.

(e) The very productive pattern of CaCéCet is used not only for diseases, but also for unrelated words like *caméret* 'tree-top', *rakévet* 'train', *šaménet* 'cream', etc.

Perhaps the most elusive aspect of these and of other such forms is the more general question of the relationship between a given noun or adjective and the verb-forms with which it shares a common root. Here the irregularities are even greater. For, given the meaning of a verb and given a related nominal form in a specific *miškal*, the latter can usually not be predictably interpreted by general rule. Moreover, the verb-forms relating to a given *miškal* may be in any *binyan*; thus, *batlan* 'loafer, idler' is related to B-4 *hitbatel* 'loaf, laze around' in just the same way as *šatyan* is related to B-1 *šata* 'drink'; and *rakdan* 'dancer' is related to B-1 *rakad* 'dance' as is *paršan* to B-3 *pereš* 'commentate, interpret'. (For further discussion, see Chapter Eleven.)

Before attempting to outline a possible method of characterizing these phenomena, we return to a question that was posed earlier in this chapter: whether the traditional procedure of making a strict separation between the derivational morphology of the verb system, as manifested by the *binyan* system, and that of all other lexical formatives, as manifested by the various *miškal* patterns, is in fact justified.

Against this dichotomy, one might immediately note the fact that verbs, nouns, and adjectives are alike in that they can be morphologically characterized by an association of Root Consonants + Pattern-Affixes – to yield a fairly limited set of possible morphological forms for words. That is, outside of the grammatical formatives such as prepositions, conjunctions, pronouns, etc., and the small set of basic or "non-derived" nouns (fns. 2 and 3 above) – the set of possible open-class "contentive" morphemes in the language could be adduced quite simply by multiplying the number of roots by the number of morphological patterns available to the speaker.

Thus, it is obviously misleading to characterize verbs alone in terms of a combination of Root + Morphological Pattern, as can be shown below for the roots p–q–d and k–t–b respectively (where /q/ and /k/ are both pronounced [k], but the latter alone alternates with [x]).

(16) ILLUSTRATION OF MORPHOLOGICAL PATTERNS OF VERBS AND NOUNS FOR THE ROOTS p–q–d AND k–t–v

	VERBS		NOUNS	
B-1	*pakad*	'command, enumerate'	*pakad†*	'inspector'
	katav	'write'	*katav†*	'correspondent'
B-4	*hitpaked*	'number off'	*tafkid*	'job, function'
	hitkatev	'correspond'	*taxtiv*	'(a)dictate, (an)order'
B-5	*hifkid*	'deposit, charge with'	*mifkad*	'census'
	hixtiv	'dictate'	*mixtav*	'letter, missive'
			mifkada	'headquarters'
			mixtava	'(writing)-desk'

† The homophony of these (agent) nouns and the corresponding verbs in B-1 is due to a neutralization of two phonological contrasts no longer generally evidenced in Modern Hebrew (outside of its orthography): the distinction between a short and a long /a/ (biblically, between [a] and [o], respectively) in the initial syllable and between the ordinary intervocalic form of the 2nd root consonant in the verb and its geminate form in the noun.

Despite the above comments, as well as various other arguments put forward by proponents of the "word as lexical prime" approach (Orman 1971a,b; Schwarzwald 1974, 1975), there seem good grounds for maintaining the traditional distinction between the two sets of forms. Firstly, it is no coincidence that the number of *binyanim* is so restricted, being mainly confined to the seven major patterns discussed in 3.3.1 above. The *miškalim*, on the other hand, run into a far larger number, even assuming that many of those listed in traditional paradigms could be collapsed by phonological rules similar to those operating to distinguish the various "declensions" of the verb system noted in Section 3.2 above. One of the reasons for this is that the *binyanim* constitute a "closed system," in the sense that any addition would tend to radically change the structure of the language – as happened, for example, when B-2 came into productive use as the passive counterpart of B-1, leading, *inter alia*, to a fairly radical change in the nature and role of the *paul* pattern (discussed in fn. 26). The nominal system on the other hand is far more "open" and amenable to innovation, as evidenced by such coinages as words formed by adding the suffix *-an* to abstract nouns – *tavruan* 'sanitation-worker' from *tavrua* 'sanitation', or *tvustan* 'defeatist' from *tvusa* 'defeat'; and the relatively

productive sense of "susceptible to" associated with the CaCiC pattern in recent coinages such as *kari* 'legible (readable)', *šamiš* 'practicable (useable)', *axil* 'edible (eatable)'.

Related to this is the difference in function of the two systems or sets of forms. The *binyanim* serve to express a restricted set of processes characterizing the type of predication being made: voice, transitivity (ergativeness), causativeness, inchoativeness, ingression, reflexiveness, reciprocality – and that is about it. They display few if any strictly lexical properties, one exception being the today rare distinction between such B-1 and B-3 forms respectively as: *kafac* 'jump, leap'/*kipec* 'hop about', *rakad* 'dance'/*riked* 'do a jig, dance about', *šavar* 'break'/*šiber* 'smash', *šalax* 'send'/*šiléax* 'send away, dismiss' – where the B-3 version occurs in the identical syntactic configuration as does the B-1 form, the B-3 forms having an additional feature of something like [+INTENSIVE] or [+REPETITIVE].[27]

The *miškal* patterns are used to characterize very different notions, classically associated with nouns rather than with predicates: the category of Agent-Noun (as distinct from the relational function of NP's acting in the capacity of Agent with respect to a given verb), Instrument, Place, Attribute, Event, etc. That is, they represent what Chomsky has termed "subcategorization" features (1965, Section 2.3.2) which can be assigned to a given lexical item in the lexicon as "inherent" features, so to speak. In other words, just as a given noun will have a plus or minus value for the feature Human or Common or Count, so it can be categorized in the lexicon for such properties as are traditionally associated with the various *miškal* patterns: Agent, Instrument, Place, etc. (see discussion in Chapter Eleven). The properties manifested by the *binyan* system, however, are not inherent features of a given verb; rather, they are associated with it by virtue of the type of predication being made, where not the verb itself, as an isolated lexical item, but rather the dominating VP, or the entire S, has associated with it plus or minus values for such properties as Causative, Reflexive, Reciprocal, etc.[28]

There is another difference between the two types of patterns which bears consideration: within the *binyan* system there are quite clear interrelations between one value or category and another.[29] To give just one example: given that the B-1 forms *šaxan* 'dwell', *gadal* 'grow', *yašav* 'sit' are in some sense "intransitive" (in that they do not take object NP's[30]), B-3 provides them with their transitive derivatives, *šiken* 'house' *gidel* 'raise' *yišev* 'seat', respectively (see fn. 27). Such is not the case with respect to the *miškal* patterns, where any given value is typically quite

independent of all the other *miškal* forms for a given root. In other words, it makes sense to speak of a given verb-root in a given *binyan* as representing the basic form from which others may be derived (a notion discussed in the preceding section), so that for the root k–t–b, B-1 *katav* 'write' is viewed as more basic than *hixtiv* 'dictate' or *hitkatev* 'correspond' not only morphologically, but syntactically and semantically as well. Yet there seems little point in specifying the occurrence of a given root in one *miškal* or another as more "basic" in relation to all its other *miškal* forms. True, the noun *pakid* 'clerk' is the basis for the derivation of *pəkidut* 'bureaucracy, clerkship' just as is the adjective *gamiš* 'flexible' for *gəmišut* 'flexibility'; yet the same cannot be said of the relationship between nouns such as *pakad* 'inspector', *pakid* 'clerk', *məfaked* 'commander', all from the root p–q–d: Which would be considered "basic" and which "derived"? And the same problem exists for such sets as *katav* 'a reporter', *mixtav* 'a letter' from the root k–t–b, or *pétax* 'an opening, aperture', *maftéax* 'key', *potxan* 'opener' from the root p–t–ħ 'open'.

For the reasons outlined above, then, we consider it appropriate to maintain the traditional distinction between *binyan* and *miškal*, with all that this entails in terms of the form of lexical entries for a Semitic language such as Hebrew. In effect, this is reflected in the procedure adopted by most Hebrew dictionaries, both monolingual and bilingual: verbs are entered alphabetically by the initial letter of the root while all other words are entered according to the initial consonant of the word itself, whether a root letter or a prefixal one. We come now to the question of whether and how the notion of "*miškal*" could be incorporated into the lexicon of a formal grammar of Hebrew. As to the "whether," we would give an affirmative reply for it seems that this notion does capture an important fact about the morphological structure of the language. As for the "how" – in view of the manifold anomalies noted in the earlier part of this section – we see no way but that of taxonomizing, as outlined below.

What we could suggest is that a detailed and exhaustive listing be set out along two parameters: a) all and only the *miškal* patterns available to the Hebrew speaker at present, irrespective of their relative productivity; and b) all the categories that these patterns represent, including Agent (Occupation, Livelihood or Activity as well as State), Instrument, Place, Event, Physical Object, Attribute, etc. As far as we know, no such taxonomy is as yet available; the traditional noun tables – that is, listings following parameter a) above (e.g., Barkali 1965) – are inadequate in that they are concerned mainly with actual phonetic output (or, rather,

orthographic representation!) and never really capture the notion of "phonological class" of nouns in any motivated or more general fashion (see in this connection the discussion of various "classes of morphemes" in the preceding chapter, particularly Sections 2.2.2, 2.2.3 and also 2.4.1 as well as the discussion of "verb classes" in Section 3.2 of the present chapter). On the other hand, in accepted textbook treatments of "morphology" (*torat hacurot* 'the study or theory of forms', as compared with *torat hahége* 'the study or theory of sound'), the *miškalim* are usually classified in terms of meaning or function – as illustrated in (14) above. We suggest, rather, that each pattern or noun-class be given a morphological characterization, in terms of Root + Affixes – phonologically predictable deviations (due, say, to the occurrence of a low "guttural" or some other defective root element – as noted in Section 3.2 above) being treated as such, by rules of the phonology. Each such "pattern" would then be given an index number, which either would or would not apply to a given root in the actual lexicon of current Hebrew. Thus, for example, the root k–t–b might have an entry for the various patterns, M_1, M_2, M_3, . . . M_n – standing for, say, miCCaC, CaCCan, CaCaC . . CCiC but it would register an accidental gap for the index number representing the *miškal* CéCeC or CiCuC, indicating that by chance there is no **kétev* or **kituv* from this root in the lexicon of contemporary Hebrew.

The other parameter would be similar to the type of listing of sub-categorization features suggested by Chomsky, as noted earlier, including such lexico-semantic classes as Place, Event, Act, Instrument, etc. Their sub-classification would need to reach an order of detail not as yet attempted in any known description of Hebrew, and here it would obviously be desirable to take account of sub-classes which can be taken to apply across languages in general. We consider how this might be accomplished in Chapter Eleven below.

3.4 SUMMARY

In this chapter we have attempted to give a brief overview of certain aspects of Hebrew morphological structure. It transpires that, as is to be expected, the inflectional system, though quite rich and complex, can be characterized in terms of a fairly coherent set of affixation processes, each with its own specific syntactic function, indicating such categories as Tense, Number, Gender and Person. The apparent anomalies in this system, to which schoolbook grammars are very largely devoted, can be accounted for in great part by rules of the phonological component

(discussed in Chapter Two) which in turn are affected largely, though not solely, by the nature of the root consonants. That is, certain types of deletion, assimilation, and vowel-mutation processes will be incurred as a consequence of the occurrence of "weak" or "defective" consonants in the root (the so-called "gutturals" /ʔ, ʿ, ħ, h/ and the glides /y, w/). Other alternations, too, can be accounted for in terms of general phonological processes such as pretonic vowel reduction or the spirantization of certain stops in given environments.

Hebrew derivational morphology, however, is shown to be relatively intransigent and unsusceptible to generalization – notwithstanding the kind of "pattern pressure" accorded these phenomena in traditional studies, where each verb-form was considered to be unambiguously representable in terms of a given {ROOT + *BINYAN*} combination and all other lexical items were accounted for in terms of {ROOT + *MIŠKAL*} patterns. We have tried to show that, despite its seemingly regular and hence predictable set of lexical forms, nearly all of which can be associated with a given morphological pattern, the lexicon of Modern Hebrew manifests a large amount of idiosyncratic items which combine phonological regularity with lexical (syntactic and semantic) anomaly. Our proposal has been to resort to a dual characterization: (i) generalizations about regularities, in the form of redundancy rules; and (ii) detailed listings of idiosyncratic properties of given roots and of given lexical entries.[31] Despite the displeasing inelegance of such an approach, we feel that it alone can do justice to the peculiar, semi-productive nature of Modern Hebrew morphological patterning and to the knowledge its speakers have about the words they use – a knowledge which, as noted before, combines a perception of existing consonantal roots and possible morphological shapes in their language with a vast amount of idiosyncatic information about specific lexical items (deriving from a combination of these two elements).

NOTES

[1] This class would also include Manner-Adverbs. However, as noted and briefly illustrated in fn. 17 of Chapter 10, these can quite generally be viewed as syntactic as well as morphological variants of (non-denominative) Adjectives.

[2] The following words are instances of idiosyncratic strings of sounds, unrelated to other items in the language: *ani* 'I', *hem* 'they', *min* 'from'; *aval, ax, ulam* 'but'; *ex, kecad* 'how'; *po, kan* 'here'. The quite common case of apparent synonyms in the

"closed classes" of items is due largely to historical circumstances, as words from both the classical Biblical language and from later, Mishnaic sources have come to be used side by side in contemporary Hebrew in a variety of ways. Sometimes the difference is purely stylistic: thus Mishnaic *aval* 'but' is typical of everyday usage in preferance to the more formal or literary flavor of Biblical *ax*; conversely, colloquial usage prefers Biblical *ex* 'how' to the more formal *kecad* of Mishnaic origin; sometimes a word from one period of the language has acquired a more restricted and specific sense in contemporary usage, and in some cases one word has almost entirely superceded another (see Bendavid 1967 on this topic, particularly Chapter One). Note, too, that even these "closed system" or "function-word" types of items can sometimes be related to other words in the language which have a common consonantal base. Thus, alongside of Mishnaic *axšav* 'now', there is the more formal Biblical *ata* – often rendered as *kaet* relating to the noun *et* 'time, period' and to the recent coinage *ituy* 'timing'.

[3] The terminology is due to Gesenius, who points out:

> "Nouns are by their derivation either primitive, i.e., cannot be referred to any verbal stem at present extent, such as *av* 'father', *em* 'mother' ..., or derivative, i.e., either *Derivativa verbalia*, e.g., *ram* 'high', *rama* 'high place', *marom* 'height' from *rum* 'to be high', or less frequently *Derivativa denominativa*, e.g., *margəlot* 'the place at the feet', from *regel* 'foot'. ... The number of primitive nouns in the sense used [above] is small since nouns, which in other languages are represented as independent noun-stems, can easily be traced back in Hebrew to the verbal idea.... Thus there remain only a few nouns, e.g., several names of members of the body in men or beasts, to which a corresponding verbal stem cannot be assigned at all, or at any rate only indirectly (from other Semitic dialects), as *kéren* 'horn', *áyin* 'eye' " (1910, 225). (Transcriptions of Hebrew words substituted for Hebrew script – Ed.)

Lyons refers to these "basic" types of nouns as "first-order nominals," noting that "[they] might well be called substantive nominals, since in the most obvious instances they denote persons, animals, things or places: in 'notional' terms, they are the most 'noun-like' nominals" (1969, 347-48).

The existence of these "basic" or "primitive" forms may be due to historical developments by which triconsonantal roots of earlier stages of the language – as attested to, *inter alia*, by the existence of cognate forms in other Semitic languages – have in some sense been reduced or otherwise changed. A case in point is the Hebrew word *bat* 'girl, daughter', originally **bant* – note Modern Arabic *bint* and Modern Hebrew *banot* 'girls, daughters', where the [n] is retained before the regular feminine plural suffix *-ot*. Other examples of such "primitive" nouns would be *ec* 'tree', *šulxan* 'table', *kise* 'chair', *kir* 'wall', as well as many which have formed the basis for the very common process of denominative verb-formation (e.g., *áyin* 'eye'/*iyen* 'consider', *ózen* 'ear'/*heezin* 'listen', *atar* 'site'/*iter* 'locate', See fn. 5 below for a related comment.

[4] In citing verbs, we adopt the convention of using what is generally the morphologically simplest form: past tense, 3rd-person masculine singular.

[5] Even with respect to the so-called basic nouns, as noted in fn. 3 above, there is a strong tendency to coin new verbs from their consonantal stem: e.g., from *miyn* 'type, sort' – *miyen* 'classify' and *miyun* 'classification'; from *iyš* 'man' – the verb *iyeš* 'man, staff' and *iyuš* 'manning, staffing'; from *šuk* 'market' – the verb *šivek* '(to)market' and *šivuk* 'marketing'; from *sémel* 'symbol, badge' – the verb *simel* 'symbolize'. On the productivity of such "basic" nouns in Modern Hebrew, see Sivan 1963, especially pp. 135-37.

[6] This implies, too, a common semantic element; that is, we disregard instances of homophony – often arising out of a historical collapse of two originally distinct segments, as in: *histakel* 'look, gaze' and *sikel* 'thwart, frustrate' both from the root s–k–l; *hitamec* 'take courage' and also 'be adopted' from the root ? –m–c as well as *imec* 'strain, make an effort' and *imec* 'adopt'; *siper* 'tell, narrate' and its homonym meaning 'cut (hair)'; *needar* 'be absent' and its homonym meaning 'hoed' from the root '–d–r. Such instances are common largely, as noted, for historical reasons of sound change, whereby phonetic distinctions assumed for earlier stages of the language are obliterated or neutralized in the course of its development. (For further examples, see Ben-Asher 1972a, 32.)

[7] This dichotomy is reflected, for example, in the school grammars for teaching morphology and *nikud* (the system of diacritic vowel-marking) where separate chapters or even textbooks are devoted to nouns and verbs respectively. Similarly, paradigmatic tables used as reference sources have separate volumes for verbs and nouns (e.g., Barkali 1965 and Sadka 1964). This differentiation is also maintained in most Hebrew dictionaries, both monolingual and bilingual, verbs being entered together under a single root, nouns and adjectives being entered by their stem. Thus, for instance, the verbs *šamar* 'guard, protect', *məšamer* 'preserve, can', *mištamer* 'be kept, be preserved' will all be entered under the letter ש, standing for the initial consonant of the root š–m–r; however, while the nouns *šmira* 'protection' and *šamran* 'conservative' will be entered under the same letter (not, however, under the root š–m–r but alphabetically), other nouns from the same root – such as *mišmar* 'guard-duty', *mišméret* 'shift' will be entered under whatever happens to be their initial (consonant) letter – in this case מ standing for the sound [m].

This raises very interesting questions of principle, discussed in Sections 3.3.2 and 3.3.3 below. Firstly, it assumes that Hebrew speakers "know" the root of any verb in the language, however phonologically opaque it may be (due to having various "defective" root consonants, as discussed in Section 3.2 below: for instance, phonetic [higía] 'arrive' derives from the root n–g–' – both the initial and final root-consonants being deleted in the surface form of the hiCCiC pattern, compared with non-defective or transparent *histir* from s–t–r, *hilbiš* from l–b–š, etc.). Secondly, it implies that verbs form part of some kind of "system," while all other words in the language lie outside of it; thus, the lexical prime for verbs is the root, while for all other grammatical categories, it is the word itself. Moreover, the two nouns, *simla* 'dress' and *šixva* 'layer', while morphophonologically identical in terms of such processes as vowel-reduction, plural-formation (*smalot* and *šxavot*, respectively), their bound-form before affixes (*simlat* and *šixvat*), etc., are "morphologically" distinct in that the latter alone is related to and derived from a verbal root – š–k–b 'to lie'.

[8] The relevant paradigm may be illustrated as follows:

		PAST	PRESENT	FUTURE
piel conjugation:	1	dibárti	↑	adaber
(d–b–r 'talk)	2	dibárta	mədaber	tədaber
	3	diber	↓	yədaber
hifil conjugation	1	hidbákti	↑	adbik
(d–b–k 'stick')	2	hidbákta	madbik	tadbik
	3	hidbik	↓	yadbik

Historically, the high second vowels in such forms as *diber* and *hidbik* were the result of a process of raising of the more "basic" low vowel *a*. See, for instance, Bolozky 1972b.

[9] There are several enclitic prefixes in Hebrew, traditionally labelled by the acronym *baxlam* standing for the consonants *b*, *k*, *l* and *m*. The first three of these – meaning something like the prepositions 'in, at', 'like, as' and 'to, for', respectively – are simply preposed to the word which follows. However, Hebrew phonological patterning disallows words beginning with a vowel (though this is possible in phonetic terms due, for instance, to the non-realization of the low "gutturals" as discussed in Section 2.3.1); this means that these prefixal consonants occur immediately before consonants – thus violating another constraint of Hebrew phonology, the inadmissibility of initial consonant clusters. This constraint applies phonetically, too, when the prefix is the sonorant *l-* and hence the "neutral" or unmarked vowel schwa is inserted before the stem, to yield, say: *lədaber* 'to-speak', *ləhikanes* 'to-enter', *ləhatxil* 'to begin' for verbs in different conjugations. As the future (and hence infinitive) stem of verbs in the *kal* conjugation takes the form CCoC, addition of the prefixal *l* would yield a triconsonantal cluster, again an impossible sequence in Hebrew phonology. Hence from /l- + gmor/, instead of the normal **ləgmor* with the neutral schwa inserted, we get *ligmor* with the high vowel *i*. But this is a consequence of a phonetic rule which stipulates that, to prevent an ungrammatical *CəC(ə)C sequence, the initial schwa must be raised to *i*. Similarly: not **kəvəyaxol* but *kivyaxol* 'as it were', not **bərəcinut* but *bircinut* 'in seriousness, seriously', etc. It should be noted, however, that this rule is generally observed only in fairly set expressions such as the two noted above, being more often than not violated in colloquial usage in less common combinations.

[10] It is interesting to note that all these texts include the term *dikduk* 'grammar' (literally, 'precision, being-precise') in their titles. Evidently, the study of morphology is viewed as constituting "grammar" in Hebrew textbook and hence schoolroom tradition. Texts concerned with syntax will generally include the word *taxbir* 'syntax' or some overt reference to *hamišpat* 'the-sentence' in their titles and will not use the term *dikduk* at all.

[11] This suffix is used mainly as follows: (i) with parts of the body which can be paired: *yad/yadáyim* 'hands', *safa/sfatáyim* 'lips', *áyin/eynáyim* 'eyes'; (ii) for items of apparel having two parts: *náal/naaláyim* 'shoes', *mixnas/mixnasáyim* 'trousers', *gérev/garbáyim* 'socks' (but *kfafa/kfafot* 'gloves'); and (iii) with periods of time: *yom/yamim* 'days'/*yomáyim* 'two-days', *ʕaa/ʃaot* 'hours'/*ʃəatáyim* 'two-hours',

xódeš/xodašim 'months'/*xodšáyim* 'two-months'. See Grosu 1969 for a semantic analysis of this category.

[12] Thus, strictly speaking Modern Hebrew does not fall into the category of "inflected languages," despite the rich system of inflections noted in this section. For in morphological terms, neither nouns nor the adjectives and determiners associated with them change form as a result of the particular syntactic function they fulfill in a given sentence (according to the traditional categories of nominative, accusative, dative, ablative, etc.).

[13] Position in the root is indicated conventionally by naming one of the three letters, *pe, áyin, lámed*, from the Hebrew root p–'–l 'do, act' standing for C_1, C_2, C_3, respectively. Thus *"áyin-vav"* verbs have the glide /w/ in medial position, *"lámed-yod"* verbs have the glide /y/ in final position, etc.

[14] Within a general phonological analysis one can try to characterize various phenomena in terms of an explicit distinction between underlying or abstract forms – often, as is to be expected, quite close to the traditional orthographic representation (see Chomsky and Halle 1968, 49-50) – and surface output or actual pronunciation.

[15] It is interesting to note that in his Masters' thesis (1951), Chomsky deliberately went counter to this practice, incorporating nouns and verbs within a single descriptive framework.

[16] These phonetic correspondences are illustrated in the following chart which shows verbs and nouns with "non-defective" roots and with "defective" roots (here containing /'/ or /ħ/.)

	NON-DEFECTIVE		DEFECTIVE			
VERBALS						
Infinitive			C_1: /'/=[∅] or /ħ/=[x]			
liCCoC	*ligmor*	*listom*	*laamod*	*laxlom*		
	'to finish'	'to check'	'to stand'	'to dream'		
Present Tense			C_3: /'/ or /ħ/			
Masc – CoCeC	*gomer*	*sotem*	*šoméa*	*potéax*		
	'finishes'	'checks'	'hears'	'opens'		
Fem -- CoCéCet	*goméret*	*sotémet*	*šomáat*	*potáxat*		
NOMINALS						
Segolates†			C_2: /'/ or /ħ/		C_3: /'/ or /ħ/	
CéCeC	*gémer*	*pésel*	*gáaš*	*páxad*	*péca*	*pérax*
	'final'	'statue'	'volcano'		'wound'	'flower'
Action Nouns						
CCiCa	*gmira*	*stima*	*amida*	*xatifa*		
	'finishing'	'checking'	'standing'	'kidnapping'		

†See Section 2.4.1.

[17] The following is a typical dictionary definition of the concept "Grammatical Conjugation": "Each of the seven special forms of the verb constructed from its root: the seven conjugations – *kal, nifal, piel, pual, hitpael, hifil, hofal*" (Even-

Shoshan 1968, 136). This definition is consistent with the method adopted for lexical entries in nearly all contemporary Hebrew dictionaries (as noted in fn. 7 above), with the form of paradigmatic tabulations of verb-lists in Hebrew (e.g., in Barkali 1965, Sadka 1964), and with the descriptions provided in textbooks of Hebrew grammar currently in use in the Israeli highschool system (e.g., Blau 1967, 18-41, Goshen-Gottshtein *et al.*, 1967, 46-47, Naor 1962, 49, and Ornan 1963, 55).

[18] An interesting question which, it seems to me, has received too little attention in both general linguistics as well as in studies concerned specifically with Hebrew is the following: What are the (semantic) effects of choosing a morphologically "incorporated" form of manifesting such processes, rather than a more analytic form, where the choice exists. We refer to such contrasts as the following – (a) representing the morphologically manifested form in each case:

(i)	Causative:	a.	dan	hipil (B-5)	et	ron	arca				
			Dan	threw	OM	Ron	down				
		b.	dan	garam	lə(ron	lipol (B-1)	arca				
			Dan	caused	(to)Ron	to fall	down				
(ii)	Reflexive:	a.	dan	hitlabeš (B-4)							
			Dan	dressed (Intrans.)							
		b.	dan	hilbiš (B-5)	et	acmo					
			Dan	dressed	OM	himself					
(iii)	Reciprocal	a.	dan	pagaš (B-1)	et	rina	verina	pagša	et	dan	
			Dan	met	OM	Rina	and Rina	met	OM	Dan	
		b.	dan	verina	nifgəšu (B-2)	(ze im ze)					
			Dan	and Rina	met	(each other)					

The (a) and (b) versions above are in each case "synonymous" only in a very loose and general sense of the term. Thus in (i-a) *dan*, as surface subject or "agent" of the main verb is by implication personally and actively involved in the action which led to the falling down of *ron*, as "patient." No such requirement necessarily obtains in the (i-b) version.

[19] The discussion in this section is a revised version of Berman 1975a. For detailed references to the various points of view outlined below, based on rather different argumentation and conclusions, see Schwarzwald 1975.

[20] Interestingly enough, the reflexive use of the *hitpael* conjugation is restrained to one very specific subset of verbs: those referring to an activity enacted upon one's own physical person, such as: dressing (as in example (ii-b) of fn. 18 above), shaving, washing, showering, combing (one's hair), soaping (oneself), drying (oneself), etc. Moreover, this use is confined to verbs applying to attention to one's overall person: thus there is no **hitnael* in the sense of 'shod oneself, put on one's shoes' or **hitgarev* as 'stocking oneself, put on one's stockings' – although these would no doubt be so interpreted in a quite straightforward fashion in the appropriate context.

[21] Although Greenberg's Hebrew examples refer to Biblical language, the constraints he notes (with respect to the non-occurrence of adjacent consonants belonging to a

single phonological class, such as sonorants or sibilants, within a given root) apply in general to Modern Hebrew, too. One reason for this is the fact that the vast bulk of the Hebrew lexicon is to this day made up of words constructed from earlier, Biblical roots.

[22] Where these constraints are clearly semantic in nature, they might need to be characterized in terms of a universal grammar. Certain other more superficially syntactic constraints would be language-specific. An example of the latter kind would be the fact that in Hebrew only verbs taking a direct object with the accusative marker *et* can generally be passivized, whereas verbs governing prepositions other than *et* do not generally have a passive version. (Compare English "the problem was dealt with," "the boy is being laughed *at.*") This constraint in turn can be explained in quite general syntactic terms for Hebrew, as a language which does not allow "dangling prepositions" (see Section 4.3).

[23] Research done by Rabiner (1974) testing the intuition of 7th Grade students who had not yet studied the *binyan* system in their "grammar" classes (see fn. 10 above) indicated quite clearly that Hebrew-speakers do intuitively associate specific "meanings" or "functions" with different *binyan* patterns, exactly along the lines represented in (8) above. Similar findings are revealed with respect to three to seven year-olds in preliminary research by Ellen Adiv into children's acquisition of the *binyan* system (personal communication).

[24] The almost exclusive use of *piel* B-3 — and, as a corollary of this, of B-4, also — in the coining of new verbs from non-native loan-stems may sometimes be accounted for phonologically. Thus, any root of more than three consonants will occur, in contemporary as in classical Hebrew, in B-3 and B-4 alone; and this explains the B-3 form of such loan-verbs as *tilgref* 'telegraph, cable', *tilpen* 'telephone', *fibrek* 'fabricate, make up', *pilsef* 'philosophize', and *xintreš* 'talk rubbish' and *čizbet* 'tell tall stories' (the latter two from Arabic). Moreover, even three-consonantal loanwords, such as *bilef* 'bluff, tell lies', *kiter* 'complain', *nijes* 'nag' (the latter two from Yiddish), will be absorbed into the B-3 pattern, possibly because it is phonologically more "regular" and less complex than, say, B-1. An exception to this very general trend is the slang use of *xarap* 'sleep-deeply' (from Yiddish) in B-1.

[25] Most of the verbs noted in fn. 24 above — particularly those taken from Arabic and Yiddish — are considered slang, and none of them are listed in such standard dictionaries as that of Even-Shoshan. They do, understandably enough, appear in the dictionaries of Hebrew slang (e.g., Ben-Amotz and Ben-Yehuda 1972, Sappan 1967).

[26] The *paul* form is traditionally not included in the listings of *binyanim*. In Biblical Hebrew, this pattern represented the passive counterpart of the *benoni* participial form of B-1, a function taken over in Modern Hebrew by B-2 *nifal.* Today *paul* performs a variety of functions, including:

i) The "statal" or perfective counterpart of B-1; compare *ze haya tafus* 'it was caught or occupied = in a state of being occupied' with *ze nitpas* 'it got caught' as the passive counterpart of 'somebody caught or occupied it' (see Section 5.5.3). Other examples include *lavuš* 'dressed in, wearing', *katuv* 'written (not oral)', *ganuv* 'stolen' (as in 'stolen property'), *šavur* 'broken=not whole'.

ii) It is a common pattern for adjectives bearing an unpredictable relation to verbs with the same root. Thus: *barur* 'clear'/B-3 *birer* 'find out, ascertain'; *asuk*

'busy'/B-1 *asak* 'engage (in)'; *aluv* 'miserable'/B-2 *neelav* 'be insulted'; *paŠut* 'simple/B-1 *paŠat* 'remove, take off'.

[27] Interestingly enough, proponents of the "total regularity" approach always cite *piel* B-3 as having an "intensifying" meaning in relation to verbs in *paal* B-1 – whereas those favoring "total anomaly" (e.g., Ornan in a lecture to Hebrew teachers in Jerusalem in summer 1975) point out that the number of verbs which manifest this alternation today comes to a half dozen or so, no more. In fact, of the 30 to 40 verb-roots which occur in both B-1 and B-3 today (apart from those few noted in the text as having an intensifying and/or repetitive effect in B-3), there are several quite different inter-relations, the only generalization possible being that the B-3 verb will always be [+TRANSITIVE], irrespective of whether the B-1 verb is [+TRANSITIVE] or not (see Berman 1975c, 30). Compare:

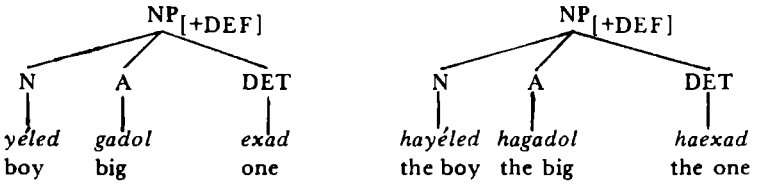
(i) B-1 is [-TRANSITIVE]

	B-1		B-3	
'–b–d	*avad*	'work'	*ibed*	'cultivate'
y–c–?	*yaca*	'go out'	*yice*	'export'
p–ħ–t	*paxat*	'lessen'	*pixet*	'devaluate'
p–n–y	*pana*	'turn'	*pina*	'evacuate'

(ii) B-1 is [+TRANSITIVE]

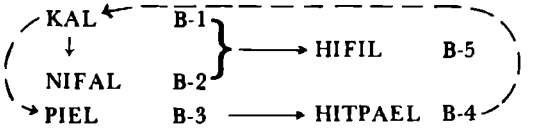
ħ–Š–b	*xaŠav*	'think'	*xiŠev*	'calculate'
y–d–'	*yada*	'know'	*yidea*	'specify'
p–t–ħ	*patax*	'open'	*pitax*	'develop'
s–p–r	*safar*	'count'	*siper*	'tell, narrate'

[28] In another context (Berman 1973, 18-36), we made an explicit distinction between two types of syntactic features: i) Inherent Features are those which apply to a given lexical item in the lexicon irrespective of its actual realization or specific functioning within a given syntactic configuration. Thus, for instance, a verb such as "run" is inherently [+ACTIVE] in contrast to the [+STATIVE] feature of a verb like "understand"; a noun such as "wall" is inherently [+COMMON], [+CONCRETE], [+COUNT], [-ANIMATE], etc., and will be listed as such in the lexicon; ii) Associated Features are those which are assigned to a given sentential or phrasal node – most generally, to NP or VP – in a given syntactic configuration. Here there is no question of an intrinsic or inherent property of a given item belonging to one of the major lexical categories, N, V, A, and these features will thus not be listed in the lexicon as part of the entry for a given lexical item. Rather, being associated with a phrasal node within a specific syntactic configuration, they will be copied transformationally from a higher node to the morphemes which constitute this node. Thus, for instance, in Hebrew, if a given VP has the value of [+PAST TENSE], this value will be copied onto the head V of the VP so that the verb in question is ultimately realized as a part tense form. Similarly, if a given NP has the feature [+DEFINITE], this will be copied onto the head N, and from it – by rules of agreement (see Berman 1974) – to its non-sentential modifiers (specifically, demonstratives and adjectives) roughly in the following fashion:



Also, all nouns in Hebrew will have a given value 1 or 2 for the category of Gender: *séfer* 'book' is inherently masculine and *maxbéret* 'notebook' is inherently feminine. However, any [+ANIMATE] noun stem may be viewed as inherently neutral with respect to Gender: *par* may be manifested as such, meaning 'bull', or *para* 'cow', *more* 'teacher' or *rakdan* 'dancer' may be realized as such, or as *mora* 'female teacher', *rakdanit* 'female dancer', depending on the value of Gender associated with the NP of which they are the head.

[29] The most salient or unmarked instances of those inter-relations (as discussed in detail in Berman 1975c) may be graphically represented as follows:



where the dotted lines represent rather infrequent, though quite regular sets of relations.

[30] In fact, of course, they do generally require some kind of complement, whether locative, directional, or otherwise. On the rarity of "absolute intransitive" type verbs, see Lees and Klima 1963.

[31] A crude example of the form of a lexical entry is given below for the root k–b–s 'wash (clothes), launder' – the roughly phonemic symbols below serving as abbreviated versions of appropriate matrices of phonological features:

ROOT {k–b–s}

(i) {[V], [B-3]}[a] AGENT NP = [+HUMAN][b]
PATIENT NP = 'article made of cloth, wool, etc.'
(to yield such forms as: PAST [kibes],
PRESENT [məxabes], FUT. [yəxabes]

(ii) {[N, +AGENT, +*BENONI*] [B-1]} (to yield the form: [kovés(et)] 'launderer')[c]

(iii) {[N, +ACTION] [B-1]} (to yield the form: [kvisa] '(act of)washing')

(iv) {[N, +CONCRETE, +PRODUCT] [*MIŠKAL*$_X$] [+PLURAL]}
(to yield the form [kvasim][d] from the non-occurrent singular *[kéves]).

Note:

[a] Should the lexicon contain historical information, it would be necessary to note that at an earlier stage of the language, the base-form of this verb was in B-1, not in B-3 as it is in colloquial usage today.

[b] Admittedly, this still evades the problem of such expressions as: "This soap washes well" or "A Hoover washes cleaner than any other washing machine."

[c] The fact that this form is generally used only in the feminine – *kovéset* 'washer-woman' – has to do with pragmatics rather than with strictly linguistic information, for speakers will correctly understand the masculine *koves*, even though it is not in actual use. On the other hand, the distinction made between the masculine Agent Noun *ozer* 'aide, assistant' as against the feminine *ozéret* 'maid, cleaning-woman', both from the root '–z–r 'help, assist', is part of the Hebrew speaker's knowledge of his language.

[d] This entry assumes a normative dialect. In colloquial usage the Action Nominal form *kvisa*, as in (iii), is generally used for the product of the act of washing as well as for the act itself, thus:

[+CONCRETE], [+PRODUCT]:

a. hakvisa kvar yəveša
the laundry (is) already dry

b. hakvisa tluya baxuc
the laundry (is) hanging outside

[+ABSTRACT], [+ACTION]:

a. hi asuka bixvisat haxitulim
she (is) busy in (the)washing of the diapers

b. hakvisa hi avoda kaša bišvili
(the)laundry (is) hard work for me

4 CASE AND GOVERNMENT

4.1 MANIFESTATION OF CASE RELATIONS IN HEBREW

Hebrew is typically said to be lacking in a case system,[1] in contrast to other Semitic languages such as Arabic, where postposed case markings are manifested as inflectional endings on nouns. One trace in Modern Hebrew of this earlier system is found in place expressions, where a suffixal *-a* semi-productively indicates "direction towards":

(1) (i) yərušaláyim 'Jerusalem' – yərušaláyma 'to-Jerusalem'
cafon 'north' – cafóna 'northwards'
pnim 'inside' – pníma 'inwards'

(ii) báyit 'home' – habáyta 'homewards'
ir 'city' – haíra 'to-the-city'
yam 'sea' – hayáma 'seawards'

We shall, however, view the notion of "case" not in the restricted traditional sense of inflectional systems overtly manifested in the forms of nouns, adjectives, etc., but in the rather more abstract sense noted by Fillmore, Anderson, and other contemporary linguists.[2] From this point of view, the concept of grammatical case can be taken to refer to the array of relations obtaining between the main verb of a given S (i.e., an element marked V as the head of a predicate phrase) and the various nominals with which it is associated within the same S. These relations can be illustrated by the surface structure of the sentences in (3) below, where the symbols are to be interpreted as follows:

(2) CASE RELATIONS ILLUSTRATED IN (3) BELOW:

AG	= Agent	PAT	= Patient
GOAL	= Goal	LOC	= Locative
INS	= Instrumental	MANN	= Manner
DIR	= Directional	COM	= Comitative

(3) a. david$_{AG}$ natan et hamatana$_{PAT}$ lərina$_{GOAL}$
David gave OM the gift to Rina (OM=Object Marker)

b. hamore$_{AG}$ sam et hagir$_{PAT}$ al hakise$_{LOC}$
the teacher put OM the chalk on the chair

c. habaxur$_{AG}$ paras et haléxem$_{PAT}$ bəsakin$_{INS}$
the boy cut OM the bread with (a) knife

d. habaxur$_{AG}$ paras et haléxem$_{PAT}$ bizhirut$_{MANN}$
the boy cut OM the bread with care

e. hem$_{AG}$ halxu haíra$_{DIR}$ im hayəladim$_{COM}$
they went to town with the children

f. akéret habáyit$_{AG}$ bišla et habasar$_{PAT}$
the housewife cooked OM the meat

g. habasar$_{PAT}$ hitbašel
the meat cooked

The following observations emerge from the above: case relations in Hebrew are typically expressed – as in English or French – by means of **prepositionals**. These prepositionals are attached before the NP – and as the initial or only element in an NP will generally be its head N – in fact they are attached before N. Unlike what happens in such typically "inflected" languages as Latin or Russian (see Chapter Three, fn. 12), the case marker is attached to the head N alone, and does not affect any of its modifiers – such as adjectives or determiners. This is in contrast to inflectional markings on the head N for such categories as Number, Gender, and Definiteness which in Hebrew do attach both to the head N and to its modifiers.[3]

Moreover – and again unlike Latin or Russian – the case marker has no morphophonemic effect on the form of the word to which it is attached. The one exception to this generalization is with respect to pronouns. These typically change form when associated with prepositionals in Hebrew, as illustrated below:

(4) hu raa oto (= et + hu)
he saw him

hem natnu lo (= lə + hu) otam (= et + hem)
they gave to him them
'they gave them to him'

hi xatxa bo (= bə + hu) ota (= et + hi)
she cut with it (Masc) it (Fem)
'she cut it with it'

For further discussion of the form of Preposition + Pronoun, see Section 3.2.3 on Inflections.

Another point worth noting is that the same prepositions typically serve more than one function, as illustrated below:

(5) a. dan šalax et hamatana lə- + { rina / Rina — GOAL; london / London — DIR; nikuy yaveš / dry-cleaning — PURPOSE }
Dan sent OM the gift to

b. dan paca et yado bə- + { veyto / his-home — PLACE; sakin / knife — INS; taut / mistake — MANN }
Dan hurt OM his hand in

Although *bə-* is the normative case marker for instrumentality, in colloquial usage the comitative marker *im* 'with' is generally used instead (in a way unacceptable to purists) in such contexts as the following:

(6) hu katav et ze im iparon
he wrote OM it with (a) pencil

lo yafe leexol im pe patúax
(it's) not nice to eat with mouth open = 'an open mouth'

hem azru lo im kol halev
they helped him with all the heart = 'with their whole heart'

Morphologically, prepositionals expressing case relations can be divided into three classes, as follows:

(7) a. Prefixals (which incorporate the definite marker *ha-*):

bə + sakin 'with-(a)-knife'
ba + sakin 'with-the-knife'

lə + yéled 'to-(a)-boy'
la + yéled 'to-the-boy'

b. Separate Words:

im david 'with David'
al hakise 'on the-chair'

c. Either Prefixals or Separate Words:

me + hayéled = min hayéled 'from-the-boy'
la + cafon = el hacafon 'to-the-north'

There are rather complicated restrictions on when the "separate-word" forms of *min* and *el* can be used. In general, they seem to occur freely mainly in "adverbial" types of expressions, where *min* has the literal sense of 'from' in the sense of direction 'away from' and where *el* means literally 'to' in the sense of 'direction towards'. In these senses they can alternate with their prefixal counterparts *me-* or *mi-* (the choice of which is phonologically determined) and *lə-*. Only the latter, however, can generally be used to express such case relations as Goal (in the sense of "dative"); and only the enclitic form is possible in instances of Government (where the verb taking a Patient NP governs a specific preposition, as discussed in more detail below). These restrictions are illustrated below, where both the separate-word and the prefixal forms are well-formed in (a), but less so in (b), and not at all in (c):

(8) (i) a. hu barax min habáyit / mehabáyit
he ran away from the house

b. hu lakax et ze ? min hayéled / mehayéled
he took OM it from the boy

c. hu paxad *min haraayon / meharaayon
he feared from the idea
'he was afraid of the idea'

(ii) a. hu halax el hakfar / lakfar
he went to the village

b. hu natan et ze ? el hayéled / layéled
he gave OM it to the boy

c. hu hitnaged *el haraayon / laraayon
he (was) opposed to the idea

The occurrence of *min* is further restricted to nouns having an overt definite marker *ha-*; this explains the ill-formedness of, for instance: **hu halax min beyto* 'he went from house-his = his house' or **hu raa zot min xalon* 'he saw it from (a) window'. On the other hand, when the preposition is prefixed to a pronominal copy of an NP, as in Relative Clauses, *el* is mandatory in adverbial expressions, and *lə-* is ungrammatical. Thus: *hakfar še hu halax elav / *lo* 'the-village that he went to-it' and similarly *hamkomot še hu nasa elehem / *lahem* 'the-places that he travelled to-them'. As expected, in such cases the *lə-* form is still required when it functions as a verb-governed preposition, as in: *haraayon še hu hitnaged *elav / lo* 'the-idea that he (was)-opposed to-it'.

There are two instances where a given case relationship has no overt prepositional manifestation: firstly, as is to be expected, the so-called nominative case, corresponding to the surface Subject in transformational terms; secondly, the traditional accusative case has a surface marker *et* only when the NP in question is [+DEFINITE]. Thus, the *et* object marker in the example in (3) above could be deleted, just in case the NP in question is [-DEFINITE], to yield, for instance:

(9) (i) a. david natan matana lərina
David gave (a) present to Rina

b. david natan et hamatana lərina
David gave OM the present to Rina

(ii) a. habaxur paras léxem
the boy cut bread

b. habaxur paras et haléxem
the boy cut OM the bread

Beyond the few language-specific features noted briefly above, it seems reasonable to suppose that case relations can be characterized for Hebrew within the more general framework of a universal "case grammar" of the kinds noted in fn. 2 to this chapter. And, indeed, a recent doctoral dissertation on verb complementation in Hebrew (Sadka 1974) has attempted to do just this.

4.2 THE CATEGORY OF 'GOVERNMENT'

Before discussing the special properties of *et*, we need to consider the notion of Government as viewed in traditional Hebrew grammars under the label of *hacraxa* (literally, 'requiring, requirement'). So far we have restricted the use of the notion Patient to NP's which, if definite, carry the special marker *et*. The question now is how to characterize the status of NP's such as those underlined below in relation to the particular main verb.

(10) david azar lərina — 'David helped (to)-Rina'
david hištameš bə+sakin — 'David used (with-a)-knife'
david paxad me+hakelev — 'David feared (from)-the-dog'
david heerim al xavero — 'David deceived (on) his-friend'

In traditional grammars of Hebrew, NP's of this type are termed "Indirect Object" — *musa akif* — by contrast with the "Direct Object" indicated by the possible occurrence of *et*; and the verbs in sentences such as those in (10) are said to "govern" the prepositions which follow them. On the surface, predicates with indirect objects have the same form as other predicates consisting of a verb plus a case-marked NP in the shape $_{VP}[V^{\frown}PREP^{\frown}NP]$.

There is, however, at least one difference between case-marking prepositions of the type discussed in Section 4.1, and prepositions which are said to be "governed" by verbs. A case-marking preposition has one or more quite clearly defined functions; for example, *bə-* indicates Instrumental, Manner, Locative; *lə-* indicates Goal, Direction-Towards, etc. Thus, for instance, the preposition *min* will never indicate Locative, nor will the preposition *im* indicate Goal. But this is not so with respect to prepositions marking Government: the choice of a given preposition is independent of a specific semantic-syntactic relation obtaining between the verb and its concomitant NP's; rather, it is quite idiosyncratic, being dictated by the particular verb itself. Moreover, in most instances there seems no clear semantic basis for a particular verb happening to govern one preposition rather than another. Compare, for example, the varied range of verbs which by chance govern a particular preposition, as follows:

(11) a. bə- 'in, at': hištameš bə- 'use'
tipel bə- 'treat'
nitkal bə- 'encounter'
dan bə- 'discuss'

b. lə-	'to':	azar lə-	'help'
		daag lə-	'worry about'
		sagad lə-	'worship'
		kine lə-	'be jealous of'
c. al	'on':	hišpía al	'influence'
		caak al	'shout at'
		samax al	'rely on'
		dileg al	'omit, skip'
d. mi-	'from'	paxad mi-	'fear'
		nehena mi-	'enjoy'
		nimna mi-	'avoid'

The lack of semantic basis to the choice of a given preposition is even more clearly evident when one considers parallel expressions in English or French:

(12)			
	hištameš bə-:	'use + ∅'	'se servir de'
	daag lə-:	'worry about'	's'inquiéter de'
	caak al:	'shout at'	'crier à'

It thus follows that the particular preposition governed by a given verb must be listed along with the verb as part of its lexical entry, as an item of idiosyncratic, unpredictable information associated with that verb. This could be done as follows:

(13) '–z–r [+B-1], [+GOV$_x$] → azar lə-
š–m–š [+B-4], [+GOV$_y$] → hištameš bə-
š–p–' [+B-5], [+ GOV$_z$] → hišpía al

where [B-n] indicates the specific *binyan* or conjugation pattern, [GOV] indicates that the verb requires a preposition, and the subscripts x,y,z indicate specific prepositions.

The question now is how the relationship between a preposition-governing verb and its accompanying "indirect-object" NP be represented. Semantically, it seems clear that the relationship is one of Verb-Patient, no less than in the case of the traditional "direct object" which is optionally marked by *et.* One reason for regarding Government as a sub-category of the Patient case is that the prepositional markers of government are not only idiosyncratic, but also quite redundant, in the sense that they fail to assign any specific semantic content to the

relationship between the verb and its associated NP. Thus, there are verbs which may be followed either by a regular preposition or by *et* (the latter alternating with zero), without incurring any change in meaning. For example:

(14) david nakat emcaim / david nakat bəemcaim } 'David took measures'

hem baxru et david / hem baxru bədavid } 'they chose David'

hu siyea et xaverav / hu siyea ləxaverav } 'he assisted his-friends'

True, there are instances where the choice of one preposition rather than another has an effect on how the verb is interpreted. Thus *šama et* 'hear' / *šama lə-* 'obey'; *heemin lə-* 'believe, give credit to (a story)' / *heemin bə-* 'believe in, have faith in'; *biker et/écel* 'visit (someone)' / *biker bə-* 'visit (a place)'; *kine bə-* 'envy' / *kine lə-* 'be jealous, fanatical about'. (For a more detailed listing, see Rubinstein 1971, 43-46.) Yet here, too, the choice of preposition is essentially idiosyncratic and not semantically motivated.

Stronger evidence for the semantically empty nature of these governed prepositions is provided by synonymous pairs of words which govern different prepositions, one of which is *et*. Thus:

(15) david rima et kulam / david heerim al kulam } 'David deceived all-of-them'

david hika et xavero / david hirbic ləxavero } 'David hit his-friend'

david daxa et hahacaa / david serev lahacaa } 'David rejected the-offer'

david tiev et ze / david salad mize } 'David reviled it'

It thus seems reasonable to divide verbs which can take nominals in the Patient case into two sub-classes: the neutral or unmarked class, taking *et* (alternating with zero where the NP in question is [-DEFINITE]); and the marked class, taking a given preposition – which needs to be indicated specifically as part of the lexical entry for each verb in this class. (It is surprising that in general dictionaries fail to do so, in fact.) Despite the semantic arbitrariness of this division – as shown above – it has definite

syntactic relevance to Modern Hebrew. The section which follows is, accordingly, concerned with how *et* differs from other prepositions governed by verbs, and the implications thereof for the syntactic structure of Hebrew.

4.3 DISTINCTIONS BETWEEN *ET* AND OTHER VERB-GOVERNED PREPOSITIONS

A number of syntactic constructions are blocked in Hebrew, just in case they are derived from verbs which govern a preposition other than *et*. As we try to show below, *et*, alone of all the prepositions in the language, is in some sense peculiarly "dispensable."

1) The object marker *et* is the only preposition which is restricted to the context of [+DEFINITE]NP's, a category which includes: i) NP's with the definite marker *ha-*, e.g., *hayéled* 'the-boy', *hamdinot* 'the-states'; ii) Proper Nouns, e.g., *yaakov* 'Jacob', *micráyim* 'Egypt'; iii) Pronominals, e.g., *oto* 'him' from *et* + *hu* as in (4) above; and iv) NP's whose head Noun has a genitive pronominal suffix, e.g., *yaldo* 'boy-his = his boy', *mdinaténu* 'state-our = our state'. In other words, *et* is the only preposition which, as noted earlier in this chapter, alternates with zero according to the Definiteness value of the NP to which it may attach.

2) The preposition *et* is the only one which allows Passivization. That is, quite generally, only verbs which take *et* can be passivized. This can be illustrated by the following examples from (15) above:

(16) (i) a. kulam rumu al ydey david
all were deceived by David

b. *kulam huarmu (al) al ydey david

(ii) a. hu huka al ydey david
he was beaten by David

b. *hu hurbac (lə-) al ydey david

(iii) a. hahacaa nidxəta al ydey david
the offer was rejected by David

b. *hahacaa surva (lə-) al ydey david

The underlined forms in (b) are phonologically perfectly possible, but they are syntactically deviant, irrespective of whether the preposition is retained or not. That is, Hebrew has nothing quite parallel to English 'they were laughed at', 'the child was spoken to', 'the chair can be sat on'; although such notions can, of course, be expressed periphrastically, by

using impersonal expressions, such as: *caxaku aleyhem* '(they)-laughed at-them', *mədabrim el hayéled* '(they)-are-speaking to the-child', *efšar lašévet al hakise* '(it-is)-possible to-sit on the-chair'. The non-passivizability of verbs with prepositions other than *et* is related not only to the "dispensability" of *et* noted above but also to a quite general phenomenon in Hebrew – the disallowance of "dangling" prepositions, as discussed at the end of this section.

There are certain exceptions to the above generalizations, and they work in both directions. That is, as shown in (17), there are verbs taking *et* which are not passivized in normal usage and, as shown in (18), there are verbs governing other prepositions which can be passivized, thus:

(17) (i) a. dan ahav et rina
Dan loved OM Rina

b. *rina neehava al ydey dan
Rina was loved by Dan

(ii) a. dan raca yiuc
Dan wanted advice

b. *yiuc nirca al ydey dan
advice was wanted by Dan

(iii) a. dan bila šam et haláyla
Dan spent there OM the night

b. *halayla bula šam al ydey dan
the night was spent there by Dan

(18) (i) a. dan tamax bahacaa
Dan supported (in) the proposal

b. hahacaa nitməxa al ydey dan
the proposal was supported by Dan

(ii) a. dan azar layəladim
Dan helped (to) the children

b. hayəladim neezru al ydey dan
the children were helped by Dan

(iii) a. dan hišpía al david
Dan influenced (on) David

b. david hušpa al ydey dan
David was influenced by Dan

In the latter instance, illustrated in (18), the Passive entails a deletion of the governed preposition – a process which, as noted above, generally applies to *et* but not to other prepositions. And again, the constraints preventing the passive form in (17) are not phonological, the underlined forms being possible sequences.

Such exceptions to the general rule are, however, quite rare, and they can be handled by special marking in the lexicon, as follows:

(19) a. ahav, raca, bila .... [+PATIENT, +ACCUSATIVE, -PASSIVE]

b. tamax, azar, hišpía .... [+PATIENT, +GOVERNMENT$_x$, +PASSIVE]

Elsewhere, any verb marked as [+ACCUSATIVE] – that is, as taking the object marker *et* – is predictably eligible for passivization; conversely, any verb marked as [+GOVERNMENT] will automatically block passivization.

3) As a corollary of the situation noted in point (2) above, when Nominalization takes place, both the Agent and the Patient NP can be associated with the nominalized verb to form a Noun Compound (a *smixut* construction, as discussed in Chapter Seven) consisting of Head plus Adjunct – just in case the underlying verb governs *et*. In all other cases, the Agent NP alone can enter into this relationship, as illustrated below (where the symbol ⌐¬ indicates *smixut* compounding):

(20) (i) a. dan daxa et hahacaa
Dan rejected OM the offer

b. dxiyat⌐¬ dan et hahacaa
rejection-of Dan OM the offer
'Dan's rejection of the offer'

c. dxiyat⌐¬ hahacaa al ydey dan
rejection-of the-offer by Dan

(ii) a. dan serev lahacaa
Dan refused (to) the offer

b. seruv⌐¬ dan lahacaa
refusal-of Dan to the offer
'Dan's refusal of the offer'

c. *seruv⌐¬ hahacaa al ydey dan
refusal-of the-offer by Dan

4) The restriction noted in point (3) above relates, in turn, to the special way in which *et* alone of all the prepositions in Hebrew alternates with the genitive particle *šel* 'of' under nominalization. If we take *et* as a clear marker of verbness, and *šel* as a sign of nominalness (a claim which is independently motivated, as noted in Section 7.2, in considering *smixut* genitive construction with and without *šel*), we arrive at the following set of facts with respect to different kinds of nominalizations. Below we give examples of various nominalizations of V* in the structure:

(21) $_{S}[NP_a \quad _{VP}[V^* \quad NP_b \quad X]]$

where V* is the Main Verb, X is any unspecified complement thereof, NP_a is the deep-structure Subject and NP_b the deep-structure Object.

a) Where V undergoes Agent nominalization of a *benoni* (present tense) verb form, the construct head-noun will be the Agent NP and the deep-structure Object, NP_b, becomes its adjunct. That is, the object marker *et* alternates with *šel*, as follows:

(22) (i) a. mnahel et hamisrad
manages OM the office
b. mnahel šel hamisrad
manager of the office

(ii) a. xoker et haneešam
investigates OM the accused
b. xoker šel haneešam
investigator of the accused

b) In the case of Gerund nominalization, NP_a must be retained and NP_b remains in the accusative case. That is, *et* cannot be replaced by *šel* where the nominal is a gerund.

(23) (i) a. bənahel dan et hamisrad
on managing Dan OM the office
'during Dan's managing the office'
b. *bənahel dan šel hamisrad
c. *bənahel hamisrad šel dan

(ii) a. kixkor dan et haneešam
as investigating Dan OM the accused
'during Dan's investigating the accused'
b. *kixkor dan šel haneešam
c. *kixkor haneešam šel dan

This inadmissibility of *šel* with gerunds is evidence that the gerund retains its verbal character, unlike other derived nominals such as Agent Nouns (discussed in a) above) and Action Nouns, as shown below.

c) Where V* is nominalized to become an Action Nominal, both NP_a and NP_b of structure (21) can – as noted in point (3) above – function as its adjunct in a *smixut* construction. Where NP_a (the deep-structure Subject) is the adjunct, NP_b must be marked by *et*, and *šel* cannot be used. Compare:

(24) (i) a. dxiyat dan et hahacaa
rejection-of Dan OM the offer
b.*dxiyat dan šel hahacaa

(ii) a. bniyat hakablan et habáyit
building-of the-contractor OM the house
'the contractor's building of the house'
b.*bniyat hakablan šel habáyit

Where NP_b (the deep-structure Object) is the adjunct of the nominalized V, NP_a will be marked by the Agent marker *al ydey* 'by' – and this, too, cannot alternate with *šel*. Thus, taking the examples from (24), the following expressions are well-formed, but they are not necessarily derived from (21):

(25) (i) dxiyat hahacaa šel dan
rejection-of the-offer of Dan
'the rejection of Dan's offer'

(ii) bniyat habáyit šel hakablan
building-of the-house of the contractor
'the building of the contractor's house'

That is, the relationship between the two adjunct nouns – *hacaa* and *dan*, *báyit* and *kablan* – is one of possession where *šel* is used and not *al ydey* (cf. (20-i) above). These restrictions, however, apply to normative usage. Native Hebrew-speaking college students quite generally interpret the

expressions in (25) as ambiguous, *dan* and *hakablan* being taken as either the possessor in relation to *hacaa* and *báyit* or as the Agent N in relation to the derived nominals *dxiya* and *bniya* respectively. And, similarly, colloquial usage tends to accept the (b) examples in (24) as quite normal, much to the distress of the purists.

Moreover, NP_b can be associated with the Nominalized V by *šel* in normative usage, too, just in case it is the adjunct, as follows:

(26) a. bniyat habáyit al ydey hakablan
building-of the-house by the contractor

OR b. habniya šel habáyit al ydey hakablan
the building of the house by the contractor

where (a) and (b) are stylistic variants of the same expression. (For comments on the two kinds of genitive constructions illustrated above – the "bound" type of (26-a) and the "separate" type of (26-b), where the latter deploys the genitive particle *šel*, see Sections 7.1 and 7.2).

d) One further type of nominalization can be noted here: that of Adjective Nominalization yielding such words as *rəcinut* 'seriousness' from *rəcini* 'serious', or *xumra* 'severity' from *xamur* 'severe'. In this instance, the question of the interchange of *et* and *šel* fails to arise, because "transitive" adjectives never govern *et* (unless a modal verb like *carix* 'must, need' is viewed as an adjective). This points to yet a further distinction between *et* and other prepositions, only the latter serving in association with nominals which are complements of adjectives rather than of verbs. We might also note here parenthetically that a similar constraint applies to the *hitpael* conjugation (=*binyan*) of verbs; traditionally viewed as a typically intransitive conjugation, in fact verbs in the *hitpael* may require complements, but these will almost never be marked by *et*, only by other prepositions, e.g., *hitgaber al* 'overcome (on)', *hitnaged lə-* 'resist (to)', *hištatef bə-* 'participate in'.

Adjective nominalization, then, yields the following:

(27) (i) a. dan axray latakala
Dan (is) responsible for the hitch

b. axrayut dan latakala
responsibility-of Dan for the hitch
'Dan's responsibility for the hitch'

(ii) a. hayéled ašem bamaase
the boy (is) guilty in (=of) the deed
b. ašmat hayéled bamaase
guilt-of the-boy in the deed

In sum, then, the above comments indicate that *et* differs from other prepositionals in the language in that it can generally alternate with *šel* when a structure of type (21) undergoes some kinds of nominalization – most particularly Agent nominalization as noted in a) above and Action nominalization as noted in c) above.

5) Another way in which *et* is distinct from other prepositions is that under Relativization, it and it alone allows a pronominal copy of the repeated NP to be deleted, as shown below.

(28) (i) a. ani makir et hayéled
I know OM the boy
b. hayéled še ani makir oto (= et + hu)
the boy that I know him (=OM + he)
OR c. hayéled še ani makir

(ii) a. hu noten et haharcaot
he gives OM the lectures
b. haharcaot še hu noten otan (=et + hen)
the lectures which he gives them (=OM + they)
OR c. haharcaot še hu noten

(iii) a. ani dibarti al hayéled
I talked about the boy
b. hayéled še ani dibarti alav
the boy that I talked about him
BUT c. *hayéled še ani dibarti (al)
the boy that I talked (about)

(iv) a. hu yehane mehaharcaot
he will enjoy from the lectures
b. haharcaot še hu yehane mehen
the lectures that he will enjoy from them
BUT c. *haharcaot še hu yehane (me)
the lectures that he will enjoy (from)

The well-formedness of the (c) sentences in (i) and (ii) as against those in (iii) and (iv) above again points to two salient properties of Hebrew

syntax: *et* is dispensable in various contexts, unlike any other preposition; and there is no possibility of the other prepositions occurring alone or "dangling" in surface structure, without some nominal to which they are attached. Further evidence is provided by the last type of transformational construction to be considered here: questions.

6) In the formation of WH-Questions, *et* may but need not show up on the surface, as follows:

(29) (i) a. ani roce et X [NON-HUMAN]
I want OM X

b. et ma ata roce?
OM what you want?
'What do you want?'

OR c. ma ata roce?

(ii) a. dan makir et X [HUMAN]
Dan knows OM X

b. et mi dan makir?
OM who Dan knows?
'Who does Dan know?'

OR c. (?)mi dan makir?

(iii) a. ani dibarti al X [NON-HUMAN]
I spoke about X

b. al ma dibarta?
about what you spoke
'What did you speak about?'

BUT c. *ma dibarta?

(iv) a. hu yarce lə+X [HUMAN]
he will lecture to X

b. ləmi hu yarce?
to who he will lecture?
'To whom will he lecture?'

BUT c. *mi hu yarce?

In summary, then, although the Accusative marker *et* manifests the same case relation between Verb-Object (=Patient) as do other prepositions governed by verbs – as shown in Section 4.2 above – it differs syntactically from other prepositionals in the language, irrespective of whether these function as markers of Verb-Government, of Case, or of

Adverbial relations.[4] Unlike other prepositions, *et* allows both the Subject and the Object NP to constitute the adjunct to a nominalized verb in a noun-compound construction (see point (2) above), and when the verb with which it is associated is nominalized, it can, moreover, alternate quite uniquely with the genitive particle *šel* (see point (3) above). Moreover, *et* alone of all prepositionals in Hebrew is deletable in a number of surface-structure contexts: before non-definite NP's (see point (1) above), in Passives (see point (2) above), in Relative Clauses and in Questions (see points (5) and (6) above respectively). All other prepositions must be retained in such constructions or else their occurrence blocks such constructions entirely (as in the case of Passives). Moreover, as Hebrew disallows "dangling" prepositions – not having anything superficially parallel to English passive "that book was referred to," relativized "the book we talked about," or interrogative "who did he go with?" – any preposition other than the deletable *et* must be attached directly to an associated nominal, in the form of a pronominal copy of the repeated NP in relatives (*hayéled še hem dibru alav* 'the-boy that they spoke about-him) or in the form of the question word in interrogatives (*al mi hem dibru?* 'about who they spoke? = about whom did they speak?').[5]

4.4 CONSTRAINTS ON CASE ASSIGNMENT

The process involved in case assignment would, then, be as follows: any underlying NP will have associated with it a given value for the category of Case – taken from a universal set of values of the kind listed under (2) above. At a fairly late stage in the derivation of the surface shape of the given NP, an appropriate prepositional morpheme will be attached to the head N, which will generally be the first element in an NP (the only elements of an NP which generally precede the head N in the surface sequence of elements in Hebrew are quantifiers). Such a case-marking will have no surface realization in either of two instances: a) where the NP in question is the surface Subject, corresponding to the traditional category of "nominative"; and b) where the NP in question is in the Accusative Case and it is non-definite (*et* being required only if it is [+DEFINITE]).

This process must be constrained so that it does not apply just in case the NP in question is related to an immediately preceding nominal in a "construct" or *smixut* relationship (as discussed in Chapter Seven). As the examples in (20-i) above indicate, NP's functioning as the adjunct elements in *smixut*-type compounds are uniquely associated with their

preceding heads so as to obviate any other type of case-marking – thus lending some justification to the traditional labeling of the genitive relationship (expressed by *smixut* in Hebrew) as one of "case," even though it obtains between two nominals rather than between a verb and an associated nominal. Thus, case-marking will be obstructed just in case the NP in question is immediately dominated by N, the surface-structure configuration of a noun compound being uniquely characterized by a string of two or more nominals under a single N node (see Section 7.7.3).

The question of case-marking being ordered with respect to various rules effecting changes in the basic ordering of constituents need not consitute a problem, if every NP is viewed as being assigned a given value for Case in the deep structure. Consider such alternations as the following, where the basic SVO order of the examples in (a) is modified in (b) by various "scrambling" processes[6] and other re-orderings applied for rhetorical purposes such as emphasis, topicalization, etc.

(30) (i) a. david raa et hayéled
David saw OM the boy

b. et hayéled raa david

(ii) a. lo tuxal lifros et haléxem bəsakin ze
not (you) will be able to cut OM the bread with knife that
'you won't be able to cut the bread with that knife'

b. bəsakin ze lo tuxal et haléxem lifros

If the various case markers – in the above examples *et* for Patient and *bə-* for Instrumental – are viewed as merely surface manifestations of underlying categories, they can be assigned to the appropriate NP at a relatively late stage of the derivation – following such variations in word order as the ones illustrated in (30). The situation with respect to Government is slightly less straightforward, as illustrated by the following:

(31) a. hamemšala tətapel babaaya bəod
the government will deal with the problem in another
xodšáyim
two months

b. bəod xodšáyim tətapel hamemšala
in another two months will deal the government
babaaya
with the problem

If the verb {t-p-l + B-3} underlying *təṭapel* in (31) is listed as idiosyncratically and inherently governing the preposition *bə-*, this preposition is liable to be assigned to any element which immediately follows the verb – yielding the desired result *babaaya* in (a) but the deviant *bamemšala* in (b). This can be avoided, however, by a redundancy rule which stipulates that any Government marker will be attached only to an NP carrying the case-marking of Patient, irrespective of where this NP shows up in the surface sentence – immediately following the verb or not. This would ensure that in (31-b) as well as in (31-a), the Government marker *bə-* will be attached to the Patient N *baaya* rather than to the Agent N *memšala.*

A similar situation to the one illustrated in (30) will apply to case markers in other types of re-ordering transformations, such as Nominalizations – see (26) and (27) above – or Question Formation – as in (29) above. Irrespective of where a given NP shows up in the surface structure, it will retain the same relational case value with respect to other elements of the sentence as in its underlying form, and hence the actual prepositional manifestation can be spelled out later in the derivation.

Two exceptions to this general statement need to be noted, both instances where the same underlying case value for a given NP will be differently marked according to how it functions in the surface structure. Thus, the special Agent marker *al ydey* 'by' (or one of its variants, such as *bidey*, literally 'at-the-hands-of') will be attached to the deep-structure Agent NP in passive constructions, whereas normally the Subject NP will have zero case-marking. Moreover, underlying Patient NP's marked by *et* may be manifested as surface Subjects, again with zero case-marking, in such alternations as the following:

(32) (i) a. rina bišla et hamarak
Rina cooked OM the soup

b. hamarak hitbašel

BUT c. *et hamarak hitbašel

(ii) a. hem šinu et toxniyoteyhem
they changed OM their plans

b. toxniyoteyhem hištanu
their plans changed

BUT c. *et toxniyoteyhem hištanu

(where the alternation of transitivity in the verb is indicated by a change in *binyan* pattern; thus (i) (a) b-š-l + B-3, (b) b-š-l + B-4; (ii) (a) š-n-y + B-3, (b) š-n-y + B-4).

Again, these kinds of alternations can be specified in a general way by appropriate redundancy rules. Thus, the general principle of assigning specific morphemes as case markers at a late stage in the derivation of surface structures can still be maintained, with these morphemes taking the shape of prepositionals – either clitics or separate words.

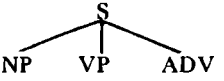
NOTES

[1] This claim is made by those who view grammatical case in the traditional sense of inflectional markings on a noun and its associated modifiers (particularly determiners and adjectives) indicating such categories as Nominative, Accusative, Dative, Ablative, etc. Languages like Latin and Russian or Old English are said to "have" cases in contradistinction to, for example, Modern English or Hebrew, and hence to also manifest relatively free word order.

[2] See, for instance, Fillmore 1966, 1968a, 1968a,b, 1971; Anderson 1968, 1971; as well as Lakoff 1968; Huddleston 1970; Walmsley 1971; and Stockwell *et al* 1973; 8-12, 34-64.

[3] In this connection, see Berman (1974) on the formulation of agreement rules for Hebrew.

[4] Traditionally, of course, such categories as Locative and Manner – included here under the listing of potential case relations in (2) in Section 4.1 above – are considered to be adverbials. We evade here the question of precisely which NP's (or surface prepositional phrases) are to be viewed as being dominated by VP, and hence in some direct relation to the main verb, and which should be regarded as lying outside of VP, in a configuration of the type:



where, just in case the circled element is an NP (or Prepositional Phrase) it may be superficially identical to a case-marked nominal, but in fact is related to S as a sentence modifier rather than to V. In this connection, see Chomsky's comments (1965, 101-05, 215-19) and also Rubinstein's article on Hebrew adverbials (1970).

[5] A further constraint on the occurrence of prefixal *lə-* occurs with the prenominal copying of an NP modified by a relative clause, where only *el* can occur with the pronoun, irrespective of the nature of the underlying complement. Thus: *hakfar še hu halak elav / *lo* 'the-village that he went to-(it)' and also *hahacaot še hu hitnaged elehen / (?)lahen* 'the-proposals that he (was)-opposed to-(them)'.

[6] The term "scrambling" is from Ross (1969a).

5 TENSE AND ASPECT

With Particular Reference to BENONI Verbs

5.0 INTRODUCTORY COMMENT

Traditionally, Hebrew verb-forms are divided into two main categories, according to the criterion of "inflectibility," the major distinction being forms which are inflected – for Number, Gender, and Person – and all other forms. What emerges is a division between *curot nətuyot* 'inflected forms' which are verbally conjugated and *curot bilti nətuyot* 'non-inflected forms' which are nominally declined. According to this subdivision, the verbal category of inflected forms consists of: Past, Future, Imperative; and the quasi-nominal category of uninflected forms consists of the *benoni* 'intermediate', both active and passive, and the verbal noun *šem hapóal* (also known as *makor natuy* 'inflected infinitive') representing the Infinitive and Gerund.

The forms we shall be directly concerned with in this chapter are Past, Future, and *benoni*. We touch on the Verbal Noun only insofar as it is relevant to the characterization of the system of Tense and Aspect in Modern Hebrew, and accord it more detailed attention in Chapters Eight and Nine below. The analysis we propose here is based not on the morphological criterion of inflectedness,[1] but rather on the syntactic-semantic categories of Tense, Aspect and Voice.

5.1 A THREE-WAY TENSE SYSTEM: PAST, PRESENT, FUTURE

Classical Hebrew does not manifest a category corresponding to the notion of "tense" in Modern European Languages. Instead, the language of the Bible makes a two-way distinction between Perfective and Imperfective Aspect – expressed by forms identical to those of Modern Hebrew Past and Future respectively.[2] A major change in Hebrew syntax was wrought

in Mishnaic times with the advent of a three-way tense system, corresponding roughly to Past, Present, and Future. In this system, as manifested in the Hebrew of today, Biblical Perfective forms are used to express Past Tense, Imperfective to express Future Tense, and *benoni* forms to express Present Tense or, more precisely, an intermediate domain which is neither Past nor Future.

Later in this chapter we consider the precise nature of the *benoni*, and attempt to show how it differs from the two clearly finite forms of verbs – Past and Present – in a number of ways. In the present section, however, we first attempt to show how *benoni* verb-forms function as a present-tense counterpart of verbs in the past or future, to create the tripartite tense system noted above.

In the following examples, the present-tense *benoni* form is noted under (a), with its past and future counterparts in (b) and (c). The examples in (1) are of "full" or "complete" verbs, those in (2) of the "defective" copula verb 'be'.

(1) (i) a. hu oved maher
he works/is working fast

b. hu avad maher
he worked/was working/has worked fast

c. hu yaavod maher
he will work/would work/will be working fast

(ii) a. hu roce laavod kan
he wants to work here

b. hu raca laavod kan
he wanted/has wanted to work here

c. hu yirce laavod kan
he will want/would want to work here

It should be clear from the glosses that the three forms underlined above incorporate the various aspectual notions expressed by auxiliaries in a language such as English: each form can – from the "English" point of view – be interpreted as expressing "simple," "progressive" or "perfect" aspect. We return to the question of Aspect in a later section of this chapter. Note that in many cases, differences expressed by the verb form itself in some languages are manifested by adverbial expressions in Hebrew, as will be seen in example (3) below. Thus, in the absence of any explicit adverbial or other contextual clue, an expression such as: *hu oved baxuc* is ambiguous as between English 'he works outside (away from home, out of

doors)' and 'he's working outside'; and *hu raa et haséret* can be interpreted as 'he saw the movie', 'he has seen the movie', 'he had seen the movie', etc.

A special instance arises with respect to copula sentences such as the following:

(2) (i) a. hu talmid tov
he student good
'he's a good student'

b. hu haya talmid tov
he was student good
'he was/used to be a good student'

c. hu yihye talmid tov
he will be student good
'he will be/would be a good student'

(ii) a. hayəladim babáyit
the children at home
'the children are at home'

b. hayəladim hayu babáyit
the children were at home

c. hayəladim yihəyu babáyit
the children will be at home

In Hebrew, as in other Semitic languages, the copula 'to be' (*lihyot*, from the root h–y–y) has no overt manifestation in the present tense in sentences such as these (it does have a special form in other types of copula sentences, such as those expressing possession and existence – as discussed in the next chapter). This circumstance has given rise to the category of "nominal sentences" as treated in traditional Hebrew grammars – and as discussed by us in Section 6.2. However, it is clear that the three expressions in each example in (2) above are synonymous, the only contrast between them being that of the time element – where the first is in some sense "neutral" with respect to tense, the other two being clearly pinpointed as Past and Future, respectively.

The claims made so far are clearly motivated when the verb-forms are contextualized by explicit time adverbials, as follows:

(3) a. hu oved maher kaet /bazman haaxaron /bədérex klal
he works fast now /lately /generally
/kšehu carix
/when-he has-to

b. hu avad maher émeš /kšehaya cair /kšeraíti oto
he worked fast last night /when-he-was young /when-I-saw him
/bizmano
/in-his-day

c. hu yaavod maher bəkarov /kšeyagía hamnahel
he will work fast soon /when the-boss will-arrive
/im tagid lo
/if you-tell him (to)

Notice that the kind of time adverbials associated with the *benoni* form *oved* in (3-a) – irrespective of how the verb might be translated aspectually in a language such as English – typically require that they refer to some time-expanse that is neither distinctly past nor distinctly future. Hence the ungrammaticality of:

(4) a. *hu oved maher etmol /kšehaya cair
he work+PRESENT fast yesterday /when-he-was young
/kšeraíti oto
/when-I-saw him

b. *hu oved maher bəkarov /bəšavúa haba
he work+PRESENT fast soon /next week
/kšeyagía hamnahel
/when the-boss will-arrive

It thus seems clear that Modern Hebrew has a three-way system of Tense, consisting of Past, Future, and some sort of neutral category which is neither past nor future – hence "present," the latter being represented by the *benoni* form. This, as noted, functioned rather differently in Biblical Hebrew and, as we shall try to show, has certain properties which set it apart from finite verb forms to this day.

5.2 NON-FINITE PROPERTIES OF THE *BENONI*

In this section we show how *benoni* forms differ in various respects from their finite counterparts in Past and Future, even when the *benoni* is to be interpreted as strictly "verbal." The points we touch on are the following: i) non-marking of the category of Person, ii) Negation, iii)

Relative Clauses, iv) occurrence of the definite marker *ha-*, v) occurrence of bound forms of *smixut* (construct-state) compounds with *benoni* forms, and vi) preposing of verbs before Subject NP's. Despite all the above contrasts, where the *benoni* is set apart from other finite verb forms, we shall try to show that even in these contexts the *benoni* is viewed in current usage as essentially parallel to Past and Future forms.

5.2.1 Non-Marking of Person

In contrast to verbs in the Past or Future, verbs in the *benoni* manifest agreement with the head N of the surface Subject in Number and Gender alone, not in Person. The system of personal pronouns in Hebrew can be divided up as follows:

(5)

	SINGULAR		PLURAL	
PERSON	MASC	FEM	MASC	FEM
1	*ani* 'I'		*anáxnu* 'we'	
2	*ata*	*at* 'you'	*atem*	*aten* 'you'
3	*hu* 'he'	*hi* 'she'	*hem*	*hen* 'they'

Given this sub-classification, distinctions of Number, Gender, and Person are overtly manifested in the Past and Future Tense forms (with certain neutralizations which need not concern us here – see Section 3.1.1) as follows, for the root g–m–r 'finish':

(6)

	PAST	FUTURE
a. MASC, SG		
1. ani	gamárti	egmor
2. ata	gamárta	tigmor
3. hu	gamar	yigmor
b. FEM, SG		
1. ani	gamárti	egmor
2. at	gamart	tigməri
3. hi	gamra	tigmor

c. MASC, PL	PAST	FUTURE
1. anáxnu	gamárnu	nigmor
2. atem	gəmartem	tigməru
3. hem	gamru	yigməru
d. FEM, PL		
1. anáxnu	gamárnu	nigmor
2. aten	gəmarten	tigmorna
3. hen	gamru	tigmorna

Such is not the case with *benoni*-form verbs. These are like nouns and adjectives, in that they manifest changes of form for Number and Gender, not for Person:

(7)

	VERB *g–m–r* 'finish'	NOUN *talmid* 'student'	ADJECTIVE *rəcini* 'serious'
a. MASC, SG ani ata hu	gomer	talmid	rəcini
b. FEM, SG ani at he	goméret	talmida	rəcinit
c. MASC, PL anáxnu atem hem	gomrim	talmidim	rəciniyim
d. MASC, PL anáxnu aten hen	gomrot	talmidot	rəciniyot

What this, in fact, means is that Subject Pronouns are largely redundant in Past and Future, but not in the Present. Thus: *ani gamárti* = *gamárti* 'I finished' and *hem yigməru bazman* = *yigməru bazman* 'they will-finish on-time'. But the explicit mention of a Subject Pronoun is mandatory in the Present Tense, for *gomer* alone contains no explicit subject reference: it must be associated with *ani, ata*, or *hu*.

Notice that in view of the non-realization of Present-Tense 'be' noted earlier, each line reading across in (7) gives a well-formed sentence. Thus: *ata gomer* 'you're finishing', *ata talmid* 'you're (a)student', *ata rəcini* 'you're serious'. In our analysis of the *benoni*, then, we shall have to account for the non-manifestation of Person distinctions in a manner consistent with the nature of copula sentences with no overt 'be' in Hebrew.

5.2.2 *benoni* Negation

Sentence-negation in Hebrew is typically formed by the adjunction of the negative-marker *lo* before the main verb – whether of a dominating or of an embedded S. Thus: *ani lo bikášti laléxet* 'I not requested to-go = I did not request to go', and *ani bikášti lo laléxet* 'I requested not to-go'. With present-tense sentences, however, a special negative marker *eyn* can be used, being adjoined either sentence-initially or after the Subject; in the latter case it will have suffixed to it a pronominalized version of the Subject NP. Thus:

(8) (i) a. eyn dan oved kan — *eyn dan avad/yaavod kan
NEG Dan work here — NEG Dan worked/will-work here

b. dan eyno oved kan — *dan eyno avad/yaavod kan
Dan NEG+PRO work here — Dan NEG+PRO worked/will work here

c. dan lo oved kan — dan lo avad/yaavod kan
Dan NEG work here — Dan NEG worked/will-work here
'Dan doesn't work here' — 'Dan did not/will not work here'

(ii) a. eyn hatalmidim məvinim
NEG the pupils understand
*eyn hatalmidim hevínu/yavínu
NEG the pupils understood/will understand

b. hatalmidim eynam məvinim
the pupils NEG+PRO understand
*hatalmidim eynam hevínu/yavínu
the pupils NEG+PRO understood/will understand

c. hatalmidim lo məvinim
the pupils NEG understand
'the pupils don't understand'
hatalmidim lo hevínu/yavínu
the pupils NEG understood/will understand
'the pupils did not/will not understand'

What these examples show is that the negative marker *lo* **must** be used in Past and Future Tense – and it **may** be used with the *benoni*, too (note examples (c) above). The marker *eyn*, whether before or after the Subject NP is restricted exclusively to *benoni* (present-tense) contexts.

These last statements are largely unacceptable to purists, who claim that *eyn* must invariably be used with the present tense, and that the use of *lo* shown with the *benoni* forms in (8) is a solecism.[3] Some grammarians even go so far as to claim a difference in meaning between the use of *eyn* and *lo* where the latter may be permissible with the Present Tense.[4] However, in contemporary usage – particularly that of children, but at all levels of colloquial style, too – *lo* is used throughout to negate *benoni*-type sentences; the use of *eyn*, which forms part of the comprehension knowledge of any Hebrew speaker, is viewed as particularly formal, literary, or "hyper-correct," particularly when it is sentence-initial, though (or perhaps because) this represents preferred style for purists.[5]

Here, then, we have a clear instance of the *benoni* being treated by native speakers as parallel to Past and Future Tense forms, like an ordinary finite verb – the more formal distinction expressed by the optional use of *eyn* being quite restricted today.

5.2.3 Relative Clause Subordination

The basic Relative-Clause subordinator in Modern Hebrew is the word *ašer*, generally in its eclipsed, enclitic form *še-*. Again, the *benoni* manifests a peculiar attribute in this connection: where the initial element of the Relative Clause is a verb in the *benoni*, the relative marker is not necessarily *še-*, but *ha-* (phonologically identical to the definite marker). Thus:

(9) (i)a. habaxur haoved kan OR habaxur šeoved kan
the fellow that works here

b. *habaxur haavad kan ONLY habaxur šeavad kan
the fellow that worked here

c. *habaxur hayaavod kan ONLY habaxur šeyaavod kan
the fellow that will work here

(ii)a. talmidim harocim laavor OR talmidim šerocim laavor
students that want to pass

b. *talmidim haracu laavor ONLY talmidim šeracu laavor
students that wanted to pass

c. *talmidim hayircu laavor ONLY talmidim šeyircu laavor
students that will want to pass

Again, we find that the distinction between the possible *benoni* forms in (a) above (with *ha-*) and those found with Past and Future (only with *še-*) tends to be blurred in contemporary usage. That is, in normal colloquial Hebrew *še-* is preferred throughout, irrespective of whether the initial verb in the Relative Clause is Present, Past or Future.

Note that *ha-* attaches only directly to a *benoni* form, and is thus not automatically possible as a relative marker in any Relative Clause in the "Present Tense" (i.e., which has a verb in the *benoni*). Thus:

(10) (i) a. *talmidim haeynam rocim laavor
students that NEG+PRO want to pass

b. talmidim šeeynam rocim laavor
students that NEG+PRO want to pass
'students that do not want to pass'

(ii) a. *talmidim hamorim ohavim otam
students that(=the) teachers like them

b. talmidim šemorim ohavim otam
students that teachers like (them)

(iii) a. *talmidim habevaday yaclíxu babxinot
students that surely will succeed in the exams

b. talmidim šebevaday yaclíxu babxinot
students that surely will succeed in the exams

The deviance of the (a) examples above indicates quite strongly that *ha-* is not simply an optional "present-tense" version of the more typical relative marker *še-* (alternatively, the full word *ašer* of Biblical Hebrew), but that it retains the character of its homophonous form *ha-*, the definite marker of Hebrew. The very general occurrence of *ha-* before *benoni* forms is further considered in the following section.

Another aspect of the use of *ha-* as the initial element in Relative Clauses also warrants consideration. Compare the following:

(11) (i) a. ani mexapes baxur hamityaxes ləavodato bircinut
I seek fellow that relates to work his seriously
'I'm looking for a fellow who takes his work seriously'

b. ?pagášti baxur hamityaxes ləavodato bircinut
met I fellow that relates to work his seriously
'I met a fellow who takes his work seriously'

c. pagášti baxur šemityaxes ləavodato bircinut

(ii) a. kol more maadif talmidim harocim ləhaclíax
every teacher prefers students that want to succeed
bəlimudeyhem
in their studies

b. ?etmol dibárnu im talmidim harocim ləhaclíax
yesterday we spoke (to) students that want to succeed
bəlimudeyhem
in their studies

c. etmol dibárnu im talmidim šerocim ləhaclíax bəlimudeyhem

The examples in (a) are in each case perfectly well-formed, though colloquial usage might accept *še-* instead of the underlined *ha-* subordinator; note that the NP which is modified by the Relative Clause – *baxur* in (i) and *talmidim* in (ii) – is quite clearly [+GENERIC]. The examples in (b) are marked as dubious when *ha-* is used; here, the NP modified by the Relative Clause is most likely **non**-Generic in the given context and *še-* is thus preferable as the relative marker at any level of style. This constraint on the use of *ha-* as a relative marker, even when directly preceding a surface-form *benoni* verb such as *mityaxes* or *rocim* in (11), again identifies it with the definite marker *ha-* rather than categorizing it as a stylistic variant of the relative marker *še-* in present-tense contexts.

5.2.4 The Definite Marker *ha-*

Another property related to the use of *ha-* in Relative Clauses is the use of *ha-* with *benoni* verbs to form surface structure NP's of the form: {*ha-* + *BENONI* + X}, where X stands for any complement of the *benoni*-form verb, including zero. Unlike the Relative Clauses illustrated in (9) above, here there is no overt NP head which is being modified, but instead the marker *ha-* itself serves as a sort of "head," in expressions such as those underlined below:

(12) (i) a. harocim ləhibaxen yirašmu kan
the want(PL) to be examined will register here
'those wanting to be examined will register here'

b. haməsarvim ləxakot yictaaru
the refuse(PL) to wait will be sorry
'those refusing=that refuse to wait will be sorry'

(ii) a. eyn hu mevin et hamištaméa mitox dvarav
not he understand OM the is implied by words my
'he doesn't understand what my words imply'

b. hem eynam roim kéšer ben hamitraxeš
they not+PRO see connection between the happen
eclénu ləven hanaase eclam
by us and between the go on by them
'they don't see a connection between what is happening here and what is going on there'

Parallel expressions in the Past and Future require some overt head, pronominal or otherwise, in non-specified NP's of this kind. Thus, instead of the expressions underlined in (12-i), one would get, for example, *éle še racu ləhibaxen* 'those that-wanted to-be-examined' in Past or *éle še yəsarvu/anašim še yəsarvu* 'those that-will-refuse/people that-will-refuse' in Future. Instead of the expressions underlined in (12-ii) you might get, for example, the very formal *et ašer hištaméa* 'OM which was-implied' or *et ašer yitraxeš* 'OM which will-happen', but more likely in colloquial usage would be *ma še hištaméa* 'what (that)-was-implied' or *ma še yitraxeš* 'what (that)-will-happen'.

Again, in line with what was noted in the previous two sections, this distinction between *benoni* as against past and future verb-forms is far less marked in colloquial usage. That is, for the examples in (12-i), one can easily substitute pronominal or non-specified heads such as *éle* or *anašim* just as in (12-ii) one could use the pronominal *ma* 'what' – adjoined to the subordinator *še-*; so that what was traditionally well-formed only in Past and Future is now colloquially equally possible in the Present Tense, also.

5.2.5 Head of Bound *smixut* Compounds

In the chapter on *smixut* Genitive constructions (Section 7.2.2a), we point out that all *benoni* forms can occur as the head of a bound type of construct-state *smixut* genitive and that only a given subset of *benoni* forms – those which also constitute independent agent nouns – can be the head as well as the adjunct of separate- or double-type genitive constructions. Here we note this phenomenon from a slightly different point of view – to show that all *benoni* forms are inherently nominal, in that they can manifest the very nominal property of entering into construct-state genitive forms; in this respect, too, *benoni* verbs differ radically from their finite counterparts in Past and Future Tense. We illustrate

such instances below (where the sign ‿ indicates a bound construct-case genitive connection):

(13) (i) a. sayéret xayalim nosey‿gufat heharug
convoy soldiers carry(PL) body the slain
'a convoy of soldiers carrying the body of the slain man'
'a convoy of soldiers (who are) carriers of the body...'

b. kvucat nəarim xovšey‿kipot
group boys wear(PL) caps
'a group of boys wearing caps/cap-wearing boys'

(ii) a. hu bikeš mi doršey‿tovato harabim
he asked from seek(PL) good-his the many
'he asked the many seekers of his good'
'he asked the many seeking his good'

b. klapey motxey‿habikóret
towards level(PL) the-criticism
'towards those levelling criticism'
'towards the levelers of criticism'

The examples in (i) above have specified head N's: *xayalim* and *nəarim*; not so those in (ii). Both instances, however, can be seen as paraphrases of {HEAD + RELATIVE CLAUSE} constructions such as:

(14) (i) a. xayalim ha-/še- nosim gufat heharug
soldiers that carry (the)body(of) the-slain

b. nəarim ha-/še- xovšim kipot
boys that wear hats

(ii) a. anašim/éle ha-/še- doršim tovato
people/those that seek his good

b. anašim/éle ha-/še- motxim bikóret
people/those that level criticism

The (underlined) verb in each case is in the *benoni* (in the plural, for reasons related to the general nature of unspecified NP's in Hebrew – see Berman 1973, 253-262) and the Relative Clause is subordinated by *ha-* or *še-* in accordance with what we noted in Section 5.2.3 above.

The point is that the verbs underlined in (14) could be replaced by their Past or Future counterparts; not so those in (13), for the two "finite" types of verb-forms can never occur in construct-state genitives – a property which, as noted, is in keeping with their purely verbal character, as distinct from the more nominal *benoni*. In other words, here the *benoni* has the character of *nomen agentis*.

5.2.6 Verbs Preposed Before Subject NP's

There is a fairly stable re-ordering rule in formal, literary Hebrew which can be informally stated as follows: where the complement – whether an obligatory object-type complement or an optional modifier type complement – is preposed to the beginning of the sentence (generally for purposes of focus) the verb of that complement must precede its subject NP – just in case the NP is not [+PRO]. Thus, in (a) below the "normal" or paradigmatic order of elements is observed, in (b) the rule stated above is not applied, in (c) it is:

(15) (i) a. harofe amar émeš še (eyn lo sikuyim)
the doctor said last night that (he has no chances)

b. ?émeš harofe amar še...

c. émeš amar harofe še...

(ii) a. hahacaa lo titkabel bəxugim məsuyamim
the offer won't be acceptable in certain circles

b. ?bəxugim məsuyamim hahacaa lo titkabel

c. bəxugim məsuyamim lo titkabel hahacaa

(iii) a. hasaxkan ibed et yitrono biglal štut
the player lost OM his advantage because of (a)stupidity

b. ?biglal štut hasaxkan ibed et yitrono

c. biglal štut ibed hasaxkan et yitrono

In all traditional grammars the rule noted above is constrained to cases where the Main Verb is in Past or Future Tense. Interestingly enough, in contemporary usage this rule is observed – and violated – to an equal extent when the verb concerned is in the Present Tense as well. The following examples (taken from the daily press) show verb preposing with *benoni* forms:

(16) bəmixtav hatšuva šelo lanasi moxe doktor X al...
in his letter of reply to the president, protests Dr. X about

bəšel maxsor xamur bəmélet olim haməxirim
because of (a) severe shortage of cement, are rising the prices

noda lánu ki bəxugey harabanut soréret məvuxa
we were informed that in rabbinic circles reigns confusion

kayom mufalot ševa tisot yomiot beyn yisrael ləeróṗa
today are operating seven daily flights between Israel and Europe

Moreover, in colloquial usage forms like those in (15-b) above are very common, so that the blurring of the distinction between the *benoni*, on the one hand, and Past and Future forms, on the other, works in both directions, depending on the level of style.

In Section 5.2 then, we have indicated six areas of syntactic relevance in which *benoni* forms are set apart from their finite counterparts in Past and Future Tense. Two generalizations arise from these observations: Firstly, where the *benoni* is distinct, it seems to manifest certain nominal properties not generally associated with the verbal system of Hebrew – i.e., non-marking of Person, the occurrence of the marker *ha-* in a variety of contexts, and the ability to take the construct-state genitive form. On the other hand, native speakers seem to manifest an increasing trend to treat *benoni* forms just like their Past and Future counterparts: this is evidenced by colloquial preference for the use of *lo* rather than *eyn* in negation, of *še-* rather than *ha-* in subordination and in non-specified NP's, and in the tendency either to prepose or not to prepose *benoni* verbs as well as those in Past or Future where the complement is brought to the front of the sentence.

Before suggesting a possible analysis of *benoni* constructions which might take into consideration both its nominal and its verbal properties, we consider two other features of *benoni* forms as verbs: cases where the *benoni* has a clearly participial, non-finite function (Section 5.3); and the special way in which *benoni* forms function in the expression of durative and perfective aspect in Hebrew (Section 5.4).

5.3 PARTICIPIAL FUNCTIONS OF THE *BENONI*

A further aspect of the "non-finite" character of *benoni* forms is that they function **participially** in a number of constructions. In such cases, they may correspond to other types of nominalizations – specifically, Infinitives, Gerundives, or *that*-Clauses – and are quite distinct from finite verbs in Past or Future.

5.3.1 Complements of Verbs of Perception

Firstly, the *benoni* form occurs in complements following verbs of perception, as follows:

(17) a. šamánu oto menagen etmol bakoncert
we heard him playing yesterday at the concert

b. raíti et hayalda yorédet el haxof
I saw OM the girl going down to the beach

c. hu gila et hayəladim mesaxakim bakadur
he discovered OM the children playing with the ball

d. hem tafsu et hayəladot borxot min hakfar
they caught OM the girls fleeing from the village

Note that most verbs take either an infinitival or a *that*-clause complement, and that only a restricted set of semantically related verbs require the *benoni*. (In addition to the verbs illustrated in (17), this class includes, for instance, *maca* 'find', *hivxin bə-* 'notice(in)'.) Moreover, the *benoni* form manifests agreement of Gender and Number with the subject of the embedded sentence, which must be identical to the object of the dominating S. Compare:

(18)	*BENONI*-PARTICIPLE	INFINITIVE
a.	raíti oto gomer I saw him finish(ing)	ilácti oto ligmor I forced him to finish
b.	raíti ota goméret I saw her finish(ing)	ilácti ota ligmor I forced her to finish
c.	raíti otam gomrim I saw them finish(ing)	ilácti otam ligmor I forced them to finish
d.	raíti otan gomrot I saw them(FEM) finish(ing)	ilácti otan ligmor I forced them(FEM) to finish

These *benoni* participial phrases can quite generally be paraphrased by finite *that*-clauses and by non-finite gerundive expressions — the preposition or conjunction and, where relevant, the tense of which indicate that the action expressed therein is in progress at the time of the "perception." Thus:

(19)

	A. *BENONI*	B. *THAT*-CLAUSE	C. GERUNDIVE
ani roe oto... I see him	holex walk(ing)	kše hu holex when he walks	bəlexto in his walking= 'while walking'
raíti oto... I saw him	holex	kše (hu) halax when he walked	bəlexto
ere oto... I'll see him	holex	kše (hu) yelex when he will-walk	bəlexto

The above data indicate the following: the form of the participial is not affected by the tense of the main verb (Column A), its temporal interpretation being dependent on the overall tense of the sentence as a whole; the participial is interpreted as an action in progress at the time of the perception expressed by the main verb (here, 'seeing') and hence in a finite clause will be in either Present, Past, or Future, depending on the tense of the main verb (Column B); and finally, the participial complement can be replaced by a Gerund such as *lexto* 'his walking' (Column C), but then the preposition must take the form of *bə-*, expressing simultaneity of action (e.g., compare *bəhikanso* 'on-his-entering' to *lifney hikanso* 'before his-entering' or *ad hikanso* 'till his-entering').

Interestingly enough, in much colloquial usage – dubbed "substandard" by normative grammarians, and avoided by many non-purists too – the infinitive form replaces the *benoni* in these complements, too. Thus, the examples below were taken from the speech of: i) a native-born Israeli woman of around forty, graduate of a teacher training college; ii) a cleaning-woman originally from an Arabic-speaking country; and iii) a native-born high-school student.

(20) a. af páam lo šamáti et amos ləhagid zot
never not I heard OM Amos to say that
'I've never heard Amos saying so'

b. ani raíti oto ləharbic la kvar kama pəamim
I saw him to beat her already some times
'I've seen him beating her several times'

c. hu od lo tafas af exad meitánu ləhaatik bəmivxan
he yet not caught none of us to copy in exam
'he's never caught any of us copying in a test'

It seems a reasonable guess to say that in due course these verbs of perception will be "regularized" and will lose their special, *benoni*-form complement structure; that is, the infinitive will probably be used for these verbs in just the same way as for others. Its increasing use even today is further evidence of the "non-finite" nature of the *benoni*.

5.3.2 "Attendant Circumstance" Adverbials

Another type of construction in which *benoni* forms occur is found mainly in more literary narrative style. Here, the construction is a sentence-modifying adverbial which can be interpreted as expressing "attendant circumstances," descriptive of the situation expressed by the main

verb. Thus, in the following sentences, we find a *benoni*-participial introducing the adverbial in each case:

(21) hem rácu likraténu, xocim bimhera et hakviš
they ran towards us, cross(MASC,PL) quickly OM the road
hi hithapxa al bitna, mitgalgélet micxok
she turned over on her stomach, roll(FEM,SG) with laughter
hu amad šam bapina boxe xarišit
he stood there in the corner, weep(MASC,SG) silently

It is no coincidence that the main verbs 'run, turn-over, stand' all express some kind of physical activity or movement; indeed, participial expressions of the type illustrated above will generally be associated with main verbs of this kind, e.g., *halax* 'walk, go', *yašav* 'sit', *nasa* 'travel', and so on. Note, too, that as in the case of the complements illustrated in (17) and (18) above, the participial *benoni* form agrees with the subject of the main verb in number and gender.

Such expressions, too, can be paraphrased by embedded S's whose verb is not *benoni* but in the **gerund** form. In that case, the preposition *bə-*, expressing something like simultaneity, will be prefixed to the gerund, and the latter will be followed by an overt realization of the underlying Subject. Thus the participial expressions in (21) can be paraphrased as follows:

(22) ... bəxocam bimhera et hakviš
on crossing they rapidly OM the road
'... (on their) crossing the road rapidly'

... bəhitgalgəla micxok
on rolling she from laughter
'... (with her) rolling with laughter'

... bivxoto xarišit
while weeping he silently
'... (while he was) weeping silently'

Again, in line with what is shown in (19) above, both types of non-finite expressions — the gerundive in (22) and the *benoni* in (21) — can be paraphrased by *that*-clauses with an overt Subject and a finite verb; the interesting difference here is that in such a case, too, the verb of the "attendant circumstance" clause can be in the **present** tense, rather than in the same tense as the main verb. Thus:

(23) (i) a. hem rácu likraténu, kšehem xocim bimhera et hakviš
they ran towards us as they cross quickly OM the road

b. hem rácu likraténu, kšehem xacu bimhera ...
they ran towards us as they crossed quickly

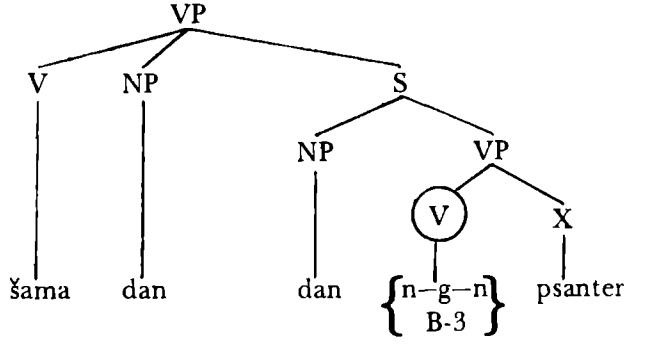
(ii) a. hi tešev šam kol hayom, kšehi boxa al gorala
she will sit there all day as she weep(s) about her fate

b. hi tešev šam kol hayom, kšehi tivke al ...
she will sit there all day as she will weep about

Example (b) above, where the verb in the dependent clause agrees in tense with the main clause verb, is well-formed in each case, but it does not have the same "attendant circumstance" interpretation as does its counterpart in (a), where the verb of the dependent clause is in the *benoni* form. The examples in (b) simply express the temporal concurrence of two activities or events: 'when they ran... they crossed...' and 'when she (will) sit ... she will weep'; not so the participial examples in (a), which express a kind of durative circumstance, attendant upon and in progress at the time of the activity described in the main clause.

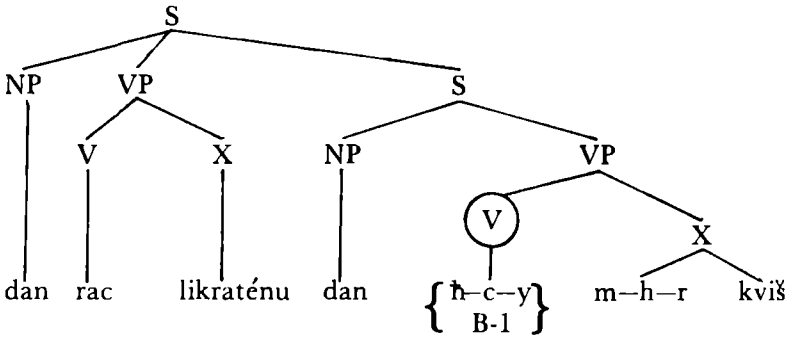
From the two types of structures discussed so far (cf. examples (17) and (21) above), we see clear instances of the participial function of the *benoni* form of verbs, expressing something akin to durative or progressive aspect. The difference is that in the first instance the participial phrase derives from an S internal to the main VP, and in the second instance it derives from a sentence-modifying adverbial, as follows (where the V to be realized in the *benoni* form is circled):

(24) (i) DERIVATION OF PARTICIPIAL COMPLEMENTS: VERBS OF PERCEPTION



⇒ *šama et dan* *mənagen* *bapsanter*
heard OM Dan playing (on) the piano

(ii) DERIVATION OF PARTICIPIAL SENTENCE MODIFIERS: VERBS OF MOVEMENT



⇒ *dan rac likratenu xoce bimhera et hakviš*
Dan ran towards us cross(ing) quickly OM the road

5.3.3 Complements to Copula-type Verbs

Sentential complements of verbs will generally take one of two forms in Hebrew: the Infinitive or a *that*-Clause. Example (24-i) above illustrates an exception to this rule, and there are two other sub-classes of verbs which – quite exceptionally – take *benoni*-type complements. The first of these is with "copula-type" verbs which, like the verb *haya* 'be', can occur quite uniquely with the following range of complements: NP, AP, Locative, *benoni*. Consider the following:

(25) (i) a. dan haya tinok 'Dan was (a) baby'
b. dan haya naívi naive
c. dan haya babáyit at home
d. dan haya omed standing

(ii) a. dan nišar tinok 'Dan (has)remained (a) baby'
b. dan nišar naívi naive
c. dan nišar babáyit at home
d. dan nišar omed standing

The set of verbs which manifest this range of complement-structure is very restricted, including *nišar* 'remain', *nira* 'seem, appear' and *nimca* 'be (found)'. But they bear mention because insofar as they have a sentential complement, its verb will be in the *benoni* form, and it will agree with the underlying Subject in number and gender.

5.3.4 Complements to *begin*-Verbs

One other verb in Hebrew can take a *benoni*-form complement, and that is *hitxil*, or its more literary counterpart *hexel* 'begin'. Thus alongside of the more common and colloquial infinitive form in (a) below, the *benoni* form in (b) still constitutes part of Israeli Hebrew usage, at least on a more formal level of style.

(26) a. hu hexel licod kadíma
he began to march forward

hem hitxílu laavod
they began to work

b. hu hexel coed kadíma
he began marching forward

hem hitxílu ovdim
they began working

Surprisingly, it is only *hexel/hitxil* which manifest this dual possibility. Other related verbs (of stages in a process, so to speak) take the more normal infinitive complement only.

(27) a. hu gamar laavod
he finished to work

hi himšixa laléxet
she continued to wait

b. *hu gamar oved
he finished working

*hi himšixa holéxet
she continued walking

5.3.5 Noun Modifiers

Here we note yet another participial function of the *benoni*: as a post-nominal adjective type of modifier, as illustrated below.

(28) a. kolam šel yəladim šarim baka min hakirot
voice their of children singing burst from the walls
'the voice of singing children burst from the walls'

b. hu eyno sovel tinok boxe
he NEG bear baby crying
'he cannot bear a crying baby'

c. zug šel raglávim rokdot hofía pitom al habama
pair of legs dancing appeared suddenly on the stage
'a pair of dancing legs appeared suddenly on the stage'

The underlined *benoni* forms agree in number and gender with the nouns they modify, and they can clearly be interpreted as instances of reduced relative clauses, as follows:

(29) a. yəladim šarim = yəladim še šaru
children that were singing

b. tinok boxe = tinok ha-/še boxe
(a)baby that cries/is crying

c. ragláyim rokdot = raglayim še rakdu
legs that were dancing

As the glosses in (28) and (29) indicate, no overt distinction is made between the two aspectually different interpretations of such N + *benoni* combinations; thus, *tinok boxe* could mean 'a baby that (habitually) cries' or 'a baby that is (in the process of) crying'. This function of *benoni* forms accords with their often adjectival character, implicit in their serving as complements of 'be' type verbs as noted in 5.3.3 above. Thus, the examples in (29) are superficially parallel to such expressions as *yəladim xacufim* 'children impertinent = impertinent children', *tinok yafe* 'baby pretty = a pretty baby', *raglayim arukot* 'legs long = long legs', etc. And again, the tense associated with the participial will be a function of the tense of the main verb – past in (a) and (c), present in (b) above.

The use of *benoni* forms as participials in various types of complement and modifying constructions is, as indicated above, quite restricted. However, the fact that the *benoni* can function in these capacities sets it apart quite clearly from its Past and Future tense counterparts, associating it with such nominal constructions as the Infinitive, the Gerund and *that*-Clauses, on the one hand, and with Adjectives on the other. This aspect of the *benoni* as a verb-form in contemporary usage needs therefore to be accounted for in the analysis we shall propose; and it reaffirms the special status of the *benoni* when compared with finite verb-forms in Past and Future, as outlined in Section 5.2.

Before proposing a more detailed derivation of *benoni* forms, we briefly review their functioning in yet another capacity: in the expression of "durative" and "perfective" Aspect in Modern Hebrew.

5.4 ASPECT – DURATIVE AND PERFECTIVE

In this section we consider the phenomenon of a surface combination of the form:

(30) $_{VP}[COP + _{VP}[V + X]]$

and attempt to show: a) that in such a configuration, the embedded V **must** take the *benoni* form; and b) that such structures quite often serve for the expression of durative and/or perfective aspect in Hebrew. This is somewhat out of line with the usual view which claims that Hebrew, unlike many European languages, does not express aspectual distinctions through the form of the verb and its auxiliaries, but by means of appropriate time-expressions (see for example our comments following example (1) at the outset of this chapter).

5.4.1 Non-Finite Passives

To start with, note that in highly specific contexts, the structure in (30) is mandatory: we refer to the Passivization of VP's whose head V takes the non-finite form of Infinitive or Gerund. Very generally, the Passive is manifested in the VP by a morphological alternation, so that verbs in the *piel* conjugation (*binyan*) take the *pual* form, and those in the *hifil* take the *hufal* form (see Section 3.3.1) – as illustrated in (i-a) and (ii-a) below, respectively. What concerns us here is the fact that the paradigm is defective with respect to the Infinitive (note (b) examples) and Gerund (note (c) examples).

(31) (i) a. ACTIVE: dan tiken et hatris
Dan fixed OM the shutter

PASSIVE: hatris tukan al ydey dan
the shutter was fixed by Dan

b. ACTIVE: dan carix letaken et hatris
Dan must (to)fix OM the shutter

PASSIVE: *hatris carix letukan al ydey dan
the shutter must (to)be fixed by Dan

c. ACTIVE: im taken dan et hatris
with fixing Dan OM the shutter
'upon Dan's fixing the shutter'

PASSIVE: *im tukan hatris al ydey dan
with being fixed the shutter by Dan
'upon the shutter's being fixed by Dan'

(ii) a. ACTIVE: ron hipil et dan arca
Ron threw OM Dan down

PASSIVE: dan hupal arca al ydey ron
Dan was thrown down by Ron

b. ACTIVE: ron alul ləhapil et dan arca
Ron(is) liable to throw OM Dan down

PASSIVE: *dan alul ləhupal arca al ydey ron
Dan(is) liable to be thrown down by Ron

c. ACTIVE: kəhapil ron et dan arca
when throwing Ron OM Dan down
'with Ron's throwing down of Dan'

PASSIVE: *kəhupal dan arca al ydey ron
when being thrown Dan down by Ron

The forms underlined in the Passive versions of (b) and (c) are quite possible phonetically, they simply do not in fact occur in the language: that is, unlike finite verb forms in the Past (examples (a) above), the Future and also the *benoni*-Present, the Infinitive and Gerund do not have a distinct form for the Passive. This lack is compensated by the insertion of the verb 'be' in the infinitival (examples (b) below) or gerundive form (examples (c) below). In other words, what is manifested is a structure of the type listed in (30) above:

(32) (i) a. hatris tukan al ydey dan
the shutter was fixed by Dan

b. hatris carix lihyot mətukan al ydey dan
the shutter must to be fixed by Dan

c. im heyot hatris mətukan al ydey dan
with being the shutter fixed by Dan
'upon the shutter's being fixed by Dan'

(ii) a. dan hupal arca al ydey ron
Dan was thrown down by Ron

b. dan alul lihyot mupal arca al ydey ron
Dan(is) liable to be thrown down by Ron

c. kəheyot dan mupal arca al ydey ron
on being Dan thrown down by Ron
'on Dan's being thrown down by Ron'

In the underlined expressions in (b) and (c) above there is a combination of the infinitive form of the copula *lihyot* 'to be' or its gerundive form *heyot* 'being' combined with a **participial** form: *mətukan* or *mupal* – the *benoni*-Passive forms of the roots t–q–n and n–p–l in the *piel* and *hifil* conjugations, respectively.

Our analysis of passive expressions of the kind underlined in (32-b,c) entails a number of related processes, required for the characterization not only of the passive versions of Infinitives and Gerunds, but also of such categories as: Aspect, the use of *benoni* forms as participials and as present-tense main verbs, and copula-sentences. Below we consider how *benoni* forms function in expressing Aspect through verbals having the surface form of h–y–y 'be' + *benoni* verb. The various possibilities are illustrated in (33), for two kinds of Aspect – Durative and Perfective – with [-TENSE] non-finite forms of h–y–y in (a) and (c), and with [+TENSE] finite forms of h–y–y in (b) and (d).

(33) a. DURATIVE ASPECT [-TENSE]

(i) lihyot tofes
to be catching = 'seizing'

(ii) bəheyotam məsadrim
on being their fixing (PL)
'on their being (in the process of) fixing'

b. DURATIVE ASPECT [+TENSE]

(i) haya tofes
was catching

(ii) yihəyu məsadrim
will be fixing (PL)

c. PERFECTIVE ASPECT [-TENSE]

(i) lihyot tafus
to be caught = 'occupied'

(ii) bəheyotam məsudarim
on being their fixed (PL)

d. PERFECTIVE ASPECT [+TENSE]

(i) haya tafus
was caught = 'occupied'

(ii) yihəyu məsudarim
will be fixed (PL)

We consider first the instance of Durative Aspect, illustrated in (a) and (b) above.

5.4.2 Durative Aspect

The examples in (a) and (b) of (33) all contain instances of h–y–y plus an "active" – in the sense of "non-passive" – *benoni* verb-form: *tofes, məsadrim*. The normal, unmarked form of the verbal would in each case be its 'simplex' counterpart – consisting simply of {ROOT + *BINYAN*}. without the auxiliary copula; the contrast is illustrated below, where in each case example (a) is unmarked for Aspect and example (b) is Durative.

(34) (i) a. hu šoef litpos et haemda hamerkazit
he aspires to catch OM the central position

b. hu šoef lihyot tofes et ...
he aspires to be (the one)catching OM

(ii) a. hem zaxu ləhokarat haklal bəsadram tamid et
they achieved recognition from all by fixing always OM
hakol behaclaxa
everything successfully

b. hem zaxu ləhokarat haklal bəheyotam məsadrim
they achieved recognition from all by being fixing
tamid et ...
always OM
'they achieved recognition from all by continually fixing...'

(iii) a. hem amdu šam vətafsu dag axarey dag
they stood there and caught fish after fish

b. hem hayu omdim šam vətofsim dag ...
they would stand/ there and catch(ing)
were standing

(iv) a. hem yəsadru et hainyan bəod kama xodašim
they will fix OM the matter in another few months

b. hem yihəyu məsadrim et hainyan od kama xodašim
they will be fixing OM the matter (for) another few months

All the above are equally well-formed, but they are by no means equally likely in actual usage. The facts about when the "simple" type of aspect is used rather than the "durative" or vice versa are not very clear and, as far as I know, they have not been described anywhere for contemporary Israeli Hebrew.[6] Below we sum up what seem to us to be the

facts of usage for the various possible manifestations of verbals of type (b) above – {h–y–y + *BENONI*-ACTIVE} – as compared with the more normal usage of a simplex verbal form as illustrated in (a) above.

(35) USAGE OF {h–y–y + *BENONI*-ACTIVE}

(i) INFINITIVE: The auxiliary *lihyot* is extremely rare in this environment; the only actual examples noted are from the writings of one Israeli novelist, who uses a highly individual, rather poetic, archaically-flavored style.

(ii) GERUND: The use of the auxiliary *heyot* is more common than (i) above, though clearly more marked than the simplex form of the gerund; it is usually preceded by the prepositional *bə-* and functions in Adverbial expressions with the sense of "while (in the process of) doing or being..."; this usage is also more likely in written than in spoken language.

(iii) PAST TENSE: the use of auxiliary *haya* (or *hayta* (Fem), *hayu* (Pl), etc.) is by far the most common type of Durative Aspect in Modern Hebrew; it has two main senses here: a) in expressing the "habitual past" much as do English *used to* or *would* in such contexts as: "When we were kids we used to go down to the beach every afternoon, and we'd run around on the sands till long after dark"; or "In those days people used to react differently: they'd sit down quietly and have a chat about it"; and b) in a narrative description of activities in progress against the background of a given state or set of activities in the Past, e.g.: "A little further on, a fellow *was standing*, and he *was watching* and *waiting* to see what would develop"; or "So I *was walking* along with him and I *was telling* him that it was a lot of rubbish... ." Interestingly enough, this use of *haya* + *BENONI*, which corresponds approximately to the Past Progressive of a language like English is restricted to two quite distinct levels of style: to the deliberately narrative tenor of fiction-writing, and to the rather colorful yet "sub-standard" speech of the relatively uneducated.[7]

(iv) FUTURE TENSE: A combination of *yihəye* (or *tihəye* (Fem), *yihəyu* (Pl), etc.) + *benoni* form is very rare in ordinary usage. Where it occurs, it expresses a more "durative" type of aspect than the normal simplex Future forms. However, it cannot be identified with, say, English *will be* + Pres Participle. Thus, the contrast between "He *will lecture* there next week" and "He will be lecturing there next week" is **not** manifested in the verb-form in Hebrew – both verbals would

typically be rendered by the simple future form *yarce* 'will lecture' rather than by the use of the auxiliary in *yihəye marce* – the latter being susceptible to a nominal kind of interpretation, as 'will be (a)lecturer'.

In sum, then, the contrast between Durative and Non-Durative aspect is generally manifested in contemporary speech by the use of appropriate time-adverbials rather than in the form of the verb itself. However, a device does exist for expressing Durative Aspect by a combination of h–y–y plus a non-passive *benoni* form.

5.4.3 Perfective Aspect

The facts about Perfective Aspect are more easily accounted for, in terms of the distinction between "statal" and "kinetic" type passives.[8] The regular or "kinetic" type of Passive – a direct reflex of a corresponding active construction – is typically expressed by the following morphological changes: B-1 *kal* = *paal* converts to B-2 *nifal*; B-3 *piel* converts to B-3_{ps} *pual*; and B-5 *hifil* converts to B-5_{ps} *hofal* (see Section 3.3.1). The "statal" type of passive – expressing the notion of "perfective" aspect – is typically expressed by h–y–y plus one of the following three forms: for verbs with their base in B-1, the special pattern *paul*; for verbs in B-3 and B-5 – the *benoni* form of B-3_{ps} = *məfual* and of B-5_{ps} = *mufal*. The breakdown can be charted as follows:

(36)

ACTIVE	"TRUE" PASSIVE	"STATAL" PASSIVE= PERFECTIVE	
B-1: *ganav* 'stole'	B-2: *nignav* 'was stolen'	*paul:*	*haya ganuv* 'was stolen'
B-3: *sider* 'fixed'	B-3_{ps}: *sudar* 'was fixed'	*məfual:* =B-3_{ps} (*benoni*)	*haya məsudar* 'was fixed'
B-5: *hiskim* 'agreed'	B-5_{ps}: *huskam* 'was agreed(on)'	*mufal:* =B-5_{ps} (*benoni*)	*haya muskam* 'was agreed(on)'

Thus, Perfective Aspect is expressed by a combination of h–y–y plus the *benoni* form of a passive *binyan*, and the only case where a special form is used for the Perfective aspect is for verbs in B-1, where *paul* is used and not the ordinary passive form *nifal*. (In Biblical Hebrew, *paul* was the ordinary passive counterpart of B-1 *benoni* forms, *nifal* acquiring this function at a later stage.) Where there is no overt occurrence of the

auxiliary h–y–y – i.e., where the dominating VP is in Present Tense – then a surface ambiguity of form occurs; for the *benoni* forms of the two "pure" passive *binyan* conjugations – *məfual* for B-3_{ps} and *mufal* for B-5_{ps} – can be interpreted either as a true or "kinetic" Passive, or as expressing Perfective aspect.

The various possibilities are illustrated in (37) below, as follows: The examples in (1) show the two reflexes of B-1: the "true" passive B-2 in (i) and the "statal" passive *paul* in (ii); the examples in (2) and (3) show that the *benoni* passive forms of B-3 *məfual* and of B-5 *mufal* respectively are potentially ambiguous as between a true and a statal passive interpretation. In each set, the examples in (i) are of true passives, those in (ii) of statal passives – and the difference in sense is indicated by the relevant adverbials shown in parentheses. Finally, in each set, the (b) expressions are active paraphrases of the passives in (a) – these paraphrases taking the form of sentences with non-specified surface subjects, indicated by the parenthesized word *anašim* 'people' in the sense of unspecified 'they' (as in English "they're building a new road in front of the school" – in the sense of "a new road is being built in front of the school").

(37) 1. (i) a. kol hamkomot nitpasim [B-2] (midey bóker)
all the seats are(=get) taken (every morning)

b. (anašim) tofsim [B-1] et kol hamkomot (midey bóker)
(people) take OM all the seats (every morning)

(ii) a. kol hamkomot tfusim [*PAUL*] (kvar mizman)
all the seats are taken (long ago)

b. (anašim) tafsu [B-1] et kol hamkomot (kvar mizman)
(people) took OM all the seats (long ago)

2. (i) a. hatauyot məsumanot [B-3_{ps}] (al ydey haorex)
the errors are marked (by the-editor)

b. haorex məsamen [B-3] et hatauyot
the editor marks OM the errors

(ii) a. hatauyot məsumanot [B-3_{ps}] (kax še kal
the errors are marked (so that (it's)easy
lətaken otan)
to-correct them)

b. (mišehu) simen [B-3] et hatauyot (kax še ...)
(someone) (has)marked OM the errors (so that)

3. (i) a. séder hayom munax [B-5_{ps}] lifney havaada
the agenda is laid before the committee

(lifney še matxilim ladun)
(before (that) they-begin to-discuss)

b. (anašim) mənixim [B-5] et séder hayom lifney
(people) lay OM the agenda before
havaada (lifney še matxilim ladun)
the committee (before (that) they-begin to-discuss)

All the (i-a) examples above are "true" passives, and they can thus be paraphrased by their (i-b) active counterparts – which have a VP containing the same verb in the same tense (Present or *benoni*); hence, in (1-i) *nitpas* (plural *nitpasim*) is the passive of *tofes* (*tofsim*), in (2-i) *məsuman(ot)* is the passive of *məsamen* and in (3-i) *munax* is the passive of *menίax* (*mənixim*). Exactly the same alternations would apply in the Past or Future tense, as follows: *nitpas* 'was-taken' and *yitafes* 'will-be-taken' in B-2 alternate with *tafas* 'took' and *yitpos* 'will-take' in B-1; and *suman* 'was indicated' and *yəsuman* 'will-be-indicated' in B-3_{ps} alternate with *simen* 'indicated' and *yəsamen* 'will-indicate' in B-3; and *hunax* 'was lain' and *yunax* 'will-be-lain' in B-5_{ps} alternate with *henίax* 'laid' and *yanίax* 'will-lay' in B-5, etc.

The (a) examples in the (ii) sentences, by contrast, express Perfective Aspect, which is typically manifested by a combination of h–y–y plus a "passive" form of the *benoni*: the special pattern *paul* alternating with B-1 in (1) above, or B-3_{ps} *məfual* and B-5_{ps} *mufal* in (2) and (3), respectively. Just in case the VP of a sentence expressing Perfective Aspect (i.e., the "statal" passive) is marked as having Present Tense, then the auxiliary h–y–y has no external manifestation, and the verbal may take the same surface form as an ordinary or "kinetic" type Passive – accounting for the surface identity between the underlined forms of the "statals" in (ii-a) and the "kinetics" in (i-a) above.[9]

In case the dominating VP is either non-finite (marked for [-TENSE]) or Past or Future, then the appropriate form of h–y–y will appear as an overt auxiliary to a "passive" *benoni*, so that Perfective Aspect will be expressed as below:

(38) (i) [-TENSE], INFINITIVE

hainyan	xayav	lihyot	məsudar	ad	še	nagía
the matter	has	to be	settled	by	when	we (will)arrive

(ii) [-TENSE], GERUND

hem	yagíu	rak	leaxar	heyot	hainyan	məsudar
they	will arrive	only	after	being	the matter	settled

'they will arrive only after the matter's being settled'

(iii) [+TENSE], PAST

hainyan	haya	məsudar	kše	higánu
the matter	was	settled	when	we arrived

(iv) [+TENSE], FUTURE

hainyan	yihəye	məsudar	ad	še	nagía
the matter	will be	settled	by	when	we (will)arrive

Exactly the same Perfective type of verbals can be constructed when the underlined verb takes the form not only of B-3_{ps} as does *məsudar* but also *paul* (e.g., *ze haya ganuv* 'it was stolen' or *ze yihəye gamur* 'it will-be completed') and B-5_{ps} (e.g., *ze haya mugaš* 'it was submitted' or *ze yihəye mufal* 'it will-be operated'). In each case, the form of both h–y–y (just in case it is not an invariable non-finite form – *lihyot* 'to-be' or *heyot* 'being') and of the *benoni* verb agrees with the Subject NP in number and gender. Compare: *hainyan haya məsudar/hainyanim hayu məsudarim* (Pl); *hu xayav lihyot baduk* 'he has to-be tested'/*hi xayévet lihyot bəduka* 'she has to-be tested'.

Finally, what precisely is the difference in meaning between, say: a) *ze xayav ləhidabek* and b) *ze xayav lihyot baduk*, both rendered as 'it has to be tested'? The infinitive form in (a) has the basic "future-oriented" sense, corresponding to 'someone has to test it (at some point in the future)'; the complex verbal in (b) expresses the fact that 'it has to be in **a state of having been** tested' – hence expressing the idea of a "statal" passive or of Perfective Aspect. Similarly, we can compare: a) *hainyan sudar* '(at some time in the past) the-matter was-settled (by some unspecified Agent)' with b) *hainyan haya məsudar* '(at some time in the past) the matter (already) was/had been settled (and thus was in a state of having been settled previously)'. That is, (a) reflects a "kinetic" and (b) a "statal" view of the notions of 'being-tested' and 'being-settled', the former focusing on the **process**, the latter on the **state** to which the verb refers.

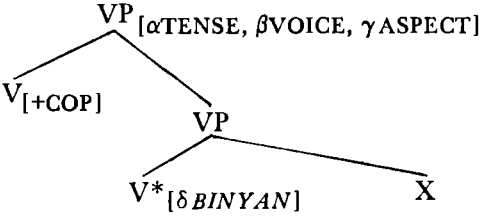
5.5 DERIVATION OF VERBALS WITH *BENONI* FORMS

Below we suggest a formal analysis for all and only verbals containing a *benoni* form – an analysis which aims to take into account the various properties and functions of the category of *benoni* as already outlined in Sections 5.1 to 5.4.

5.5.1 Processes in the Derivation of *benoni* Forms

Our claim is as follows: all and only instances of *benoni*-form verbs will be derived from an underlying structure of the following form, where V* represents the node under which the *benoni* form is to be realized:

(39)



Given a structure of the form of (39) – a tree-representation of the structure given in (30) above – then, irrespective of the value of Tense assigned to the dominating VP, the "complement" V* will always take the form of the *benoni*, either Active or Passive.

The processes involved in deriving from underlying (39) the wide range of surface forms in which *benoni* verbals are manifested can be explained as follows:

(i) A specific value – marked above α – for the category of Tense is copied from the dominating VP to the head V, that is, the left-most V under the VP node. As is explained in Section 5.6 of this chapter, α may have one of three values: plus for Past and Future "finite" verbs; minus for Gerund and Infinitive "non-finite" verbs; and zero for "intermediate" *benoni*-form verbs, irrespective of their particular function (whether as participials, as present-tense main verbs, as used in the Passive, or to express Durative or Perfective Aspect).

(ii) The process of "*benoni*-formation" is restricted to all and only instances where, given an underlying structure taking the form of

$$_{VP}[V \quad _{VP}[V^* \quad X]]$$

the left-most V is a form of the copula h–y–y. This constraint is necessary to distinguish between the type of construction being considered here – where the embedded V* is manifested as a *benoni* form – and other instances of VP's dominating a derived structure of the form V⌢VP. In the latter case, the complement V will take the form of the infinitive, as in *xayav ləsader* 'has to fix', *yaxol ligmor* 'can (to) finish'; *yodéa lisxot* 'knows (how) to-swim'. Given that the left-most V is a copula, however, the output of these processes will be such well-formed expressions as: *haya holex* 'was walking, would walk', *yihəye matxil* 'will-be beginning', as well as *lihyot məsudar* 'to-be fixed' or *heyot mupal* 'being thrown' (see Section 5.4 above).

(iii) A further process is required for the derivation of superficially simplex *benoni* verbals in such expressions as: *hu holex* 'he walks/is walking', *hi nofélet* 'she falls/is falling', *hem maskimim* 'they agree'. We refer to the process of Copula Deletion, a very basic and general rule of Hebrew grammar, which specifies that in the context of Present Tense the copula h–y–y has no phonetic realization. This rule is required for the characterization of all so-called "nominal sentences" in Hebrew (see Section 6.2), where the complement of the copula might be a nominal – compare *hi psantranit* 'she(is a)pianist' with *hi tihəye psantranit* 'she will-be (a)pianist'; an adjectival – compare *hu amic* 'he (is) brave' with *hu haya amic* 'he was brave'; or locative *hem babáyit* 'they (are) at-home' with *hem hayu babáyit* 'they were at home'.

Our claim is that Copula Deletion applies similarly in the case of **all** *benoni* forms, so that just in case the complement X in a predicate with the structure $_{VP}$[COP X] is a verbal, the deletion of the left-most copula V will yield simplex *benoni* forms such as *holex, nofélet, maskimim* in the expressions cited above.

The processes applying to a structure of the form (39) which ultimately yield the basis for a *benoni* form verb are summed up below:

(40) PROCESSES IN THE DERIVATION OF *BENONI* VERBALS

Underlying structure: $_{VP\alpha}\left[V_{[+COP]}\ _{VP}[V\ X]\right]$

(i) by TENSE ASSIGNMENT:	[COP	V	X]
	a. COP+PRES	h–l–k	habáyta
	b. COP+PAST	h–l–k	habáyta
(ii) by *BENONI* FORMATION:	[COP	V-BENONI	X]
	a. COP+PRES	holex	habáyta
	b. COP+PAST	holex	habáyta
(iii) by COP DELETION:	[∅	V-BENONI	X]
	a. ∅	holex	habáyta
	b. COP+PAST	holex	habáyta

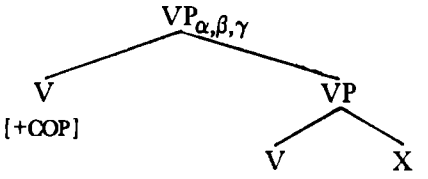
The result of these processes would thus be such predicates as the following: a) *holex habáyta* 'goes, is going home' – where the dominating VP was in Present Tense, and the Copula eventually deleted; or b) *haya holex habáyta* 'was going, would go home' – where the Copula is overtly manifested, in this case in the Past Tense.

5.5.2 Structures with {h–y–y + *BENONI*}

The question now arises of precisely when a VP takes the form represented in (39) above. Our claim is that this structure underlies all and only verbals containing a *benoni* form. These include: (i) instances of simplex *benoni* verbals derived as outlined for the example in (40-a); and also, (ii) the passive form of Infinitives and Gerunds (Section 5.4.1), and verbals expressing Durative and Perfective Aspect (Sections 5.4.2 and 5.4.3, respectively).

We need, then, to account for expressions of both types (i) and (ii), with a zero form of h–y–y or some overt manifestation of h–y–y, respectively. Insofar as h–y–y can be interpreted as merely an external manifestation of such categories as Voice and Aspect, it need not be viewed as an independent constituent assigned by context-free phrase-structure rules, but rather as an element assigned to a given VP in the appropriate environment. The instances where a structure of type (39) will be yielded can then be characterized as follows:

(41) A VP having the value α=TENSE, β=VOICE, γ=ASPECT will take the form:



just in case: (i) $\alpha = \emptyset$ — i.e., "Present Tense"
OR (ii) α = [-] and β = [+PASSIVE]
OR (iii) γ = Durative or Perfective

(i) accounts for all and only instances of the "normal" or simplex *benoni*, with no overt auxiliary copula.

(ii) stipulates that a structure of the form (39)=(41) will be derived in cases where the VP is [-TENSE] — i.e., Infinitival or Gerundive, the two "non-finite" forms — and in Passive Voice. This will account for the cases illustrated under (32-b,c), where the verbal must take the form of h—y—y + *benoni*-Passive — e.g., *lihyot mətukan* 'to-be fixed' or *heyot mupal* 'being thrown'. The application of (ii) must be constrained so as to apply only in the case of the two "pure" passive *binyan* conjugations — *pual* and *hofal* (with active counterparts in *piel* and *hifil*, respectively); B-2, the *nifal* conjugation, has a special [-TENSE] form, even though it very often constitutes the passive counterpart of transitive verbs in the *kal* conjugation. Thus *ligmor* 'to finish' is passivized as *ləhigamer* 'to-be-finished' and *lixtov* 'to-write' is passivized as *ləhikatev* 'to-be-written' for the infinitive, and as *higamer* 'finishing', *hikatev* 'writing', respectively, for the gerund.

(iii) accounts for the set of cases described in Sections 5.4.2 and 5.4.3 — where {h—y—y + *BENONI*-ACTIVE} expresses Durative Aspect, and where {h—y—y + *BENONI*-PASSIVE} expresses Perfective Aspect, as illustrated in the examples in (33) above, e.g., *lihyot tofes* 'to-be occupying' or *haya tofes* 'was occupying' for Durative Aspect and *lihyot tafus* 'to-be occupied' or *haya tafus* 'was occupied' for Perfective. Part (iii) needs to be suitably constrained, so that the feature of [+DURATIVE] will incur a [-PASSIVE] form of the *benoni*, and the feature of [+PERFECTIVE], a [+PASSIVE] form.

The conditions in (41) thus seem to account for all and only instances of the surface occurrence of a *benoni* form in Modern Hebrew, whether with no overt copula, as in case (i) above, or with some form of h–y–y being manifested, as in cases (ii) and (iii).

5.6 GENERAL CHARACTERIZATION OF TENSE-SYSTEM

We conclude this chapter by attempting to motivate our analysis of the category of Grammatical Tense in terms of the following three-way system:

(42) (i) [-TENSE] "non-finite" forms:

INFINITIVE *ligmor*
'to-finish'

GERUND *(bi)+gmor*
'(on)finishing'

(ii) [+TENSE] "finite" forms:

1 TENSE = PAST *gamar*
'(he)finished'

2 TENSE = FUTURE *yigmor*
'(he)will-finish'

(iii) [∅TENSE] "intermediate" forms:

BENONI *gomer*
'finish(es)'
'be-finishing'

5.6.1 The Category of [-TENSE]

In contrast to the traditional treatment of the notion, we divide what is termed a "verbal noun" – *šem hapoal* – or "inflected infinitive" – *makor natuy* – into two distinct structures: Infinitive and Gerund. Detailed motivations for this distinction are provided in Section 9.1. Any instances of these two constructions will be realized if and only if the VP of an embedded S (to be nominalized in the form of an infinitival or gerundive phrase) is marked for the value of [-TENSE], each of the two constructions being subject to its own particular constraints. Quite typically, infinitivals and gerundives will have [+TENSE] counterparts in the form of *še-* 'that' clauses, as follows:

(43) (i) a. ánu məkavim ləhaclíax bamsima
we hop to succeed in the plan

b. ánu məkavim še naclíax bamsima
we hope that we'll succeed in the plan

(ii) a. nəxake ad gmor dan et avodato
we'll wait till finishing Dan OM work his
'we'll wait till Dan's finishing (of) his work'

b. nəxake ad še dan yigmor et avodato
we'll wait till (that) Dan will finish OM his work

The proposal that all infinitivals and gerundives be derived from [-TENSE] predicates accounts for the "non-finite" character of such expressions in at least two senses: Firstly, it specifies them as being unique among the verbal forms of the language in that they are morphologically invariable, being non-inflected for the categories of Number, Gender, and Person as well as Tense. Secondly, in syntactic and semantic terms, it captures the fact that the temporal interpretation associated with infinitives and gerunds, and hence the kind of time-adverbials which can be assigned to them, depend ultimately on the Tense value of the proposition as a whole, rather than of the particular embedded VP of which they constitute the underlying head V.

5.6.2 The Category of [+TENSE]

This category incorporates uniquely the two sets of "finite" verb forms in the language, and as such it has one of two values: [1 TENSE] representing Past, [2 TENSE] representing Future. These forms are unique in being overtly marked for all three categories of Number, Gender, and Person in such a way that an overt pronominal subject is often redundant. Thus *ani gamárti* = *gamárti* 'I (have) finished', and *ani egmor* = *egmor* 'I will finish'; *aten gmarten* = *gmarten* 'you (Fem, Pl) (have) finished' and *aten tigmorna* = *tigmorna* 'you will finish'. Identifiable with the Perfective and Imperfective of Biblical Hebrew, these two sets of forms are today interpreted as having distinctly "prior to the present" and "subsequent to the present" interpretations, as outlined previously in Section 5.1. The specificity of the time-span to which they refer thus sets them apart from both the "non-finite" forms noted in 5.6.1 and the "intermediate" *benoni* forms as discussed in 5.6.3.

These two sets of forms are also used to express certain kinds of modalities; thus, Future Tense can be associated with Imperative Mood – as outlined in fn. 1 to this chapter – and Past Tense can be associated

with Subjunctive Mood through the use of the auxiliary *haya*, as noted in fn. 7.

5.6.3 The Category of [∅ TENSE] *benoni* Forms

In assigning this value to all and only occurrences of *benoni* verbs, we depart quite clearly from the traditional analysis, as outlined earlier. In considering the *benoni* as used in Modern Hebrew, we need to take into account all the various factors discussed earlier in this chapter. In Section 5.1. we noted that today the *benoni* is used very generally to express a kind of indeterminate time span, neither Past or Future, but in some sense quite clearly "Present" – and we thus claimed that in effect Modern Hebrew has a tripartite system of Tense: Past, Present, and Future. The question then is why the *benoni* is not categorized along with Past and Future, as being [+TENSE]: Firstly, as noted in Section 5.2., there are numerous ways in which the *benoni* differs from its finite counterparts, and which associate it with the **nominal** rather than the **verbal** system of the language. Secondly, as noted in Sections 5.3 and 5.4, there are numerous cases in which the *benoni* has a participial function, which associate it with the non-finite forms of Infinitive and Gerund.

All the above led us to a two-fold conclusion concerning the *benoni* in Modern Hebrew: Firstly, it is the most unmarked or "neutral" form of a nominal type of verb, and as such it has associated with it the unique value of [∅ TENSE] (for, after all, nouns are typically neutral with respect to the category of Tense). Secondly, it and it alone is derived from an underlying structure of the type depicted in (39) above and repeated here:

(44)

$$VP_a\left[\begin{array}{ll} V & \\ [+COP] & VP_b[V \quad X] \end{array}\right]$$

Where VP_a is marked for either plus or minus Tense, various combinations of {h–y–y + *BENONI*} will be derived, expressing either the Passive or Durative or Perfective Aspect, as discussed in Section 5.4. above. Where VP_a is marked for [∅ TENSE], the left-most V (the Copula) will be deleted by the very general process of Copula Deletion in the context of the *benoni*. The application of Copula Deletion to structure (44), just in case VP_a is marked for [∅ TENSE], will yield the following:

(45) (i) *hu COP {g–m–r / B-1} kaet ⇒ hu gomer kaet
is finishing now

(ii) *hi COP {š–b–r / B-2} bəkalut ⇒ hi nišbéret bəkalut
she breaks easily

(iii) *hem COP {t–y–l / B-3} bəxul ⇒ hem mətaylim bəxul
they are travelling abroad

(iv) *hen COP {n–h–g / B-5ps} al yado ⇒ hen munhagot al yado
they(Fem) are led by him

It remains now to justify our claim that all and only *benoni* forms are derived from a VP which (i) is specified as having the value zero for Tense, and which (ii) is dominated by a VP with a Copula as its head V.

a. Our first claim is that a *benoni* verb is not in itself marked for any value of the category of grammatical Tense; rather, it is neutral with respect to this parameter, being "intermediate" not only between verb and noun (the traditional reason for its being called *benoni*), but also between the finite Past and Future, on the one hand, and the non-finite Infinitive and Gerund, on the other. Furthermore, semantically the *benoni* may be viewed as intermediate with respect to the time axes of both past and future, being used to characterize states, events, and activities which are neither anterior nor subsequent to the current time-period or to the moment of speaking. These properties are captured by the unique feature of [∅ TENSE] which, in our analysis, is not copied directly onto the *benoni*-form verb itself, but rather onto the left-most V in the domain of a VP marked as [∅ TENSE] – that is, the Copula.

b. This analysis makes it possible to provide a uniform characterization of different occurrences of *benoni* form verbs – both when, following Copula Deletion, the *benoni* functions as a "Present Tense" counterpart to the finite Past and Future (Section 5.1 above), and when, just in case COP is overtly realized, a combination of h–y–y plus *benoni* is used to express non-finite Passives or Durative and Perfective Aspect (Section 5.4 above). In other words, failing such an analysis, we would have to separate all instances of the simplex *benoni* with no overt Copula, illustrated in (45) above, from the many instances where a *benoni* form is required, just in case the verbal takes the complex form {h–y–y- + V}.

c. This analysis makes it possible to account for the potentially participial nature of simplex *benoni* forms in various types of complementizing and modifying constructions (Section 5.3 above). The

assumptions of zero-value and an underlying copula head account for such occurrences of the *benoni* as being on a par with infinitival and gerundive non-finite forms which typically serve such functions, while differing from them in that it manifests agreement for Number and Gender with the underlying Subject (see (d) below). Our analysis thus aims to express the durative nature of the *benoni* forms describing, for instance, activities in progress concurrently with the time expressed by the main verb. For instance an expression such as *hu raa otam holxim* 'he saw them walking' can be paraphrased by a gerundive with an overt copula: *hu raa otam bəheyotam holxim* 'he saw them on-being-their walking = while they were walking'.

d. One of the "nominal" properties of the *benoni* as noted in Section 5.2.1 is that, unlike finite verbs, it agrees with its Subject in Number and Gender, but **not** in Person. This type of agreement, however, is typical of copula complements in general, as shown below:

(46)	(i)	hayéled haya rəcini	ata hayíta rəcini
		the boy was serious	you(Masc,Sg) were serious
		hayəladot hayu rəciniot	aten hayíten rəciniyot
		the girls were serious	you(Fem,Pl) were serious
	(ii)	dan yihəye talmid	ata tihəye talmid
		Dan will be (a) student	you will be (a) student
		dan vərina yihəyu talmidim	anáxnu nihəye talmidim
		Dan and Rina will be students	we will be students

The examples show that the copula agrees with the Subject in Gender, Number, and Person, but that its complement – an Adjective in (i) and a Noun in (ii) – agrees with the Subject in Number and Gender alone, showing no marking at all for Person. (For a further discussion of agreement rules in Hebrew, see Berman 1974.) The assumption of an underlying copula in VP's manifested as the *benoni* thus explains why the latter show agreement with their Subject in Number and Gender, and not in Person: for a verbal complement of h–y–y – which **must** be realized as a *benoni* form on the surface – behaves like any other complement of the copula, like the Adjective in (i) or the Noun in (ii).

e. This point ties in with another property of *benoni* forms in Hebrew, briefly touched on earlier in this chapter: they can quite typically, though not entirely productively, assume the status of nouns (Section 5.2.5) or of adjectives (Section 5.3.5). As nouns, they represent the notion of Agent if [+HUMAN] and of Instrument if [+PHYSICAL OBJECT] (as

described in some detail in Sections 11.3 and 11.4). Below we briefly illustrate these statements by reference to the forms *mnahel* – either the verb 'direct, manage' or the noun 'director, manager' – and *macxik* – either the verb 'amuse, cause to laugh' or the adjective 'amusing, funny'.

(47) VERB: a. hu haya mnahel et hamisrad
he was directing OM the office

b. ze haya maxcik et kulam
it would amuse OM everyone

NOUN a. hu hamnahel šel hamisrad
he(is) the director of the office

b. – – –

ADJ: a. – – –

b. hasipur haya macxik ləmaday
the story was funny rather = 'rather funny'

This subdivision into lexical categories is motivated as follows: In the first set, the Accusative Marker *et* is restricted to (in the sense of being governed by) verbs; in the second, the Genitive Particle *šel* occurs only with nouns; and in the third, the modifier *ləmaday* is used only with Adjectives.[10] In each case, the underlined form is realized in the *benoni*, *mnahel* being the *benoni* of B-3 for the root n–h–l, *macxik* the *benoni* of B-5 for the root c–ħ–q.

As we shall see in the next chapter, in our discussion of Copula Sentences, copula predicates can typically contain NP's or AP's as complements. In Hebrew, we claim, they can also typically have VP complements, in which case the V of the complement **must** be in the form of the *benoni*. The point illustrated by (47) is that if the complement of such a predicate is an NP or an AP, its head N or head A is also quite likely to be in the form of a *benoni*.

f. Finally, note that the mechanism required to derive surface VP's with a simplex *benoni* as head – that is, cases where the auxiliary h–y–y is not overtly manifested – is a very basic one of Copula Deletion. As we shall see in the next chapter, this process is required not only for the derivation of *benoni* verbals, but it is a very general aspect of Hebrew structure; for where the VP is in "Present Tense," the copula will normally not be overtly manifested, in contrast with the overt occurrence of h–y–y in both the non-finite infinitive and gerund forms and in the finite past and future. Thus, our characterization of *benoni* verbals does not

involve any additional rules for Copula Deletion, as the process is a general property of all copula sentences specified as [∅ TENSE].

NOTES

[1] In morphological terms, it is worth noting an alternative subdivision, based on the form of the stem:

(i) The *makor* or "base" – Future, Imperative, Verbal Noun (=Infinitive & Gerund), e.g.;

B-1 (*kal* conjugation) – CCoC
B-5 (*hifil* conjugation) – haCCiC

(ii) Past Tense, e.g.;

B-1 – CaCaC
B-5 – hiCCiC

(iii) *benoni* or "intermediate", e.g.;

B-1 – CoCeC
B-5 – maCCiC

Forms expressing Imperative Mood can be associated with the Future not only in terms of a common morphological stem, but also in terms of semantic interpretation. The Imperative, as is to be expected, is manifested only in the 2nd-Person, and it is marked for Gender and Number, yielding four possibilities in all: Masculine Singular and Plural, Feminine Singular and Plural. In contemporary colloquial usage, the corresponding Future forms substitute very generally for the more normative Imperative (termed *civuy* from c–w–y 'command, order') forms. Note, too, that the "verbal noun" – *ʕem póal*, also termed *makor natuy* 'inflected infinitive' – can in some sense be semantically associated with the Future, for in Hebrew as in other languages, Infinitives are very generally interpreted as having future reference.

[2] A relevant feature of Biblical syntax is the use of the *vav hahipux* 'consecutive and' – roughly speaking used with Perfective to denote Future, and with Imperfective to denote Past time reference. Gesenius accounts for these two aspects as follows:

> "The name Imperfect is here used in direct contrast to the Perfect, and is to be taken in a wider sense than in Latin and Greek grammar. The Hebrew (Semitic) *Perf.* denotes in general that which is *concluded, completed,* and *past,* that which has happened and has come into effect; but at the same time, also that which is *represented* as accomplished, even though it be continued into present time or even be actually still future. The *Imperf.* denotes, on the other hand, the *beginning,* the *unfinished,* and the *continuing,* that which is just happening, which is conceived as in a process of coming to pass, and hence, also that which is yet future; likewise also that which occurs repeatedly or in a continuous

sequence in the past (Latin Imperf.). It follows from the above that the once common designation of the Imperf. as a *Future* emphasizes only *one* side of its meaning. In fact, the use of Indo-Germanic tense-names for the Semitic Tenses, which was adopted by the Syrians under the influence of the Greek grammarians, and after their example by the Arabs, and finally by Jewish scholars, has involved many misconceptions. The Indo-Germanic scheme of three periods of time (past, present, and future) is entirely foreign to the Semitic tense-idea, which regards an occurrence only from the point of view of completed or incomplete action." (Gesenius, 1910, 125, fn.1)

[3] An interesting insight into the view still held on this subject is provided by the summing up of the contents of a symposium on the issue of whether there is any justification for using *lo* in negating the present (see Yuzuk *et al.* 1940). School grammars in use to this day insist that *eyn* be used for the negation of Present Tense sentences (see, for instance, Segal 1936, 15; Peretz 1965, 282-84; Nahir 1950, 13).

[4] Thus, for instance, Peretz notes that *lo* may be used with the Present Tense for purposes of special emphasis (1965, 282-84). Another traditional grammarian claims that *lo* "negates the predicate," whereas *eyn* is itself, so to speak, the predicate – indicating absence or lack of existence (Epstein 1946, 251).

[5] In Copula sentences expressing existence and possession, *eyn* is retained in Present Tense contexts in all styles of Hebrew usage. For details of this phenomenon, see Section 6.5 on negation of Copula sentences.

[6] The use of h-y–y with a non-passive form of the *benoni* is common in both Biblical and Mishnaic Hebrew, as attested to by the many examples cited in Ben Yehuda's dictionary, (1948, Vol. II, 1075). These examples are appropriately interpreted by Ben Yehuda as having a durative interpretation – *hatmadat hapəula* in his words – and they include instances of infinitive *lihyot*, past tense *haya* and future *yihəye* with *benoni*-form verbs.

[7] A third instance of {*haya+BENONI*} expressions has a quite different function, which needs to be accounted for in terms of the distinct notion of "unreal conditions" in a sense akin to that of Subjunctive Mood – generally in the context of the hypothetical 'if' – *lu* or *ilu* – (compared with the unmarked conditional formative *im*) as in:

(i) lu haya omer li hayíti ozer lo
if was telling me, I was helping him
'if he (had)told me, I would help/have helped him'

(ii) ílu gamárnu bazman haya ze poter et habaaya
if we finished on time was it solving OM the problem
'if we (had)finished on time, it would solve/have solved the problem'

[8] See Hasegawa 1968 on English passives for an explication of the notions "statal" as compared with "kinetic" passives.

[9] A general analysis of passive constructions is not attempted in the present context – where concern is mainly with the morphological alternations between verbs in

active as against passive sentences, and the possible surface identity of true passives and perfectives in the *benoni*. In general, it would seem that the issues of interest concerning the derivation of passive constructions in Hebrew would be very similar to those discussed in the general literature on the nature and meaning of passive sentences and their relation to their active counterparts. Thus, for instance, the claims made by Langacker and Munro (1975) are particularly pertinent with respect to Hebrew. See, too, in addition to Hasegawa 1968 as referred to in fn. 8 above, Bouton 1973, Emonds 1970, Freidin 1975, and R. Lakoff 1971. What seems of particular relevance with respect to Hebrew is the following fact: Given that Hebrew has a very productive and relatively straightforward mechanism for producing passive sentences (as described in Ariel 1971 and Berman 1973, Chapter 3), these constructions are quite generally avoided in actual usage, both colloquial and more formal. Instead, focus is moved away from the agent-doer of a given action or perpetrator of a state or event by means of impersonal type constructions with a main verb in the masculine plural and with no overt Subject NP at all. Thus, for instance:

(i) tamid tofsim et kol hamkomot šaot lifney še hakoncert
always are taking OM all the seats hours before (that) the concert
matxil
starts
'all the seats are always taken hours before...'

(ii) bonim sof sof gešer šam
are building at last (a)bridge there
'at last a bridge is being built there'
'at last they're building a bridge there'

(iii) hociu oto mi bet haséfer
expelled(Pl) him from the school
'he was expelled from school'

(iv) yaxšəvu še hu məšuga
will think(Pl) that he(is) crazy
'people will/they'll think he's crazy'

Such expressions are the normal form for many cases where a language like English would prefer the passive — even though, as noted, Hebrew has no technical difficulty in rendering any of the above in the passive.

[10] A fuller characterization of *benoni*-form adjectives and defining properties of the category of Adjective in Hebrew is given in Berman 1973, Chapter 7.

6 COPULA CONSTRUCTIONS

6.1 TYPES OF COPULA CONSTRUCTIONS

The copula verb *haya* from the root h–y–y 'be' functions on the surface as the initial element in a wide variety of Predicate types, as illustrated below. In each case, two examples are given: a) Present Tense – with various suppletive forms of the copula including zero; and b) Past Tense *haya* (or *hayta* Fem., or *hayu* Pl.), Future Tense *yihye* (or *tihye* Fem., or *yihyu* Pl.), Infinitive *lihyot*, or Gerund *heyot* – that is, instances where some overt form of the verb {h–y–y + B-1} is manifested.

(1) (i) VP COMPLEMENT – Head V in *benoni*

a. hu manhig et hakita
he leads OM the class

b. hu haya manhig et hakita
he was lead OM the class
'he used to lead the class'

(ii) AP COMPLEMENT

a. dan (hu) rəcini miday
Dan (he) serious too much
'Dan is too serious'

b. dan yihye rəcini miday
Dan will be too serious

(iii) NP COMPLEMENT

a. hamuamadim (hem) talmidim tovim
the candidates (they) students good
'the candidates are good students'

b. hamuamadim asuyim lihyot talmidim tovim
the candidates may (to) be good students

(iv) SENTENTIAL COMPLEMENT

1.a. kavanatéynu (hi) lilmod eclo
intention our (she) to learn with him
'our intention is to learn from him'

b. kavanatéynu crixa lihyot lilmod eclo
our intention must (to) be to learn from him

2.a. hasakana hi še tikašel
the danger she(is) that (you) will fail

b. hasakana tihye še tikašel
the danger will be that (you) will fail

(v) LOCATIVE COMPLEMENT

a. dan (hu) bamitbax
Dan (he) in the kitchen
'Dan is in the kitchen'

b. im heyot dan bamitbax
with being Dan in the kitchen
'with Dan's being in the kitchen'

(2) (i) EXISTENTIAL-LOCATIVE

a. dan (yešno) bamitbax
Dan (is+ PRO) in the kitchen

b. im heyot dan bamitbax
with being Dan in the kitchen
'with Dan's being in the kitchen'

(ii) EXISTENTIAL-UNIVERSAL

a. yeš baayot
(there) are problems

b. hayu baayot
(there) were problems

(iii) POSSESSIVE

a. (yeš) lədan mispar batim
(there are) to Dan several houses
'Dan has several houses'

b. yihyu lədan mispar batim
(there) will be to Dan several houses
'Dan will have several houses'

These various types of constructions are considered in the sections which follow. The following points should be noted at the outset with regard to the examples in (1) and (2) above:

a) The type of construction illustrated in (1-i), where the Copula is complemented by a VP with a head V in the form of a *benoni* participial or present-tense verb, is discussed separately in the preceding chapter (see Sections 5.3 and 5.4) and will thus not be considered further in the ensuing discussion.

b) The examples listed under item (a) in (1-i) through (1-v) above all represent copula sentences in the present tense which belong to the kind of construction termed a "nominal sentence" in Hebrew grammars. On the surface they share the following property: the copula may be manifested as zero or as a third-person pronoun such as *hu* 'he' in (1-ii) or (1-v), *hi* 'she' in (1-iv), *hem* 'they' in (1-iii). Such constructions are discussed in Sections 6.2 and 6.3 below.

c) The examples in (2-i) through (2-iii) represent three types of propositions — Locative, Existential, and Possessive — which are generally associated in natural languages. In Hebrew they share the surface property that — as manifested in the (a) sentences under (2) above — in the present tense they may contain the special existential particle *yeš*. These constructions are discussed in Section 6.4 below, and note is made of the fact that in the present tense they require the special negative particle *eyn* (Section 6.5).

d) The locative sentences in (1-v) are superficially identical to the existential sentences in (2-i) above, just in case there is a zero form of the copula in the present tense. However, these represent two distinct types of propositions: in (1-v) the **location** of a certain entity (Dan) is being asserted (as in answer to the question "Where is/was Dan?"), the surface complement has main stress, and in the present tense zero alternates with a third person pronoun such as *hu* in place of 'be'; in (2-i) the **existence**

of a certain entity (Dan) is being asserted (as in answer to the question "Who is/was in the kitchen?"), the surface subject has main stress, and in the present tense zero alternates with *yeš* (often with an enclitic pronominal such as *-no*) in the sense of 'be'.

6.2 THE "NOMINAL SENTENCE" IN HEBREW GRAMMAR

As noted above, traditional grammars distinguish two main classes of sentences in terms of Predicate construction: all "normal" sentences have a predicate containing an overt verb-form, whether it be some form of the copula h–y–y or any other "full" or non-defective verb; any other type of sentence, in which there is no overt verb form, is termed a "nominal sentence" = *mišpat semani.*[1] We can illustrate this notion on the basis of some (a) sentences from (1):

(3) (i) a. hayéled rəcini miday
the boy (is) too serious

b. hayəladim babáyit
the boys (are) at home

c. rina vəsara talmidot tovot
Rina and Sara (are) good students

(ii) a. ani ayef
I (am) tired

b. hem kan
they (are) here

c. hen axayot
they (Fem) (are) sisters

In a paper concerned mainly with the various suppletive forms of h–y–y in present-tense contexts (Berman and Grosu 1976), two main classes of copula constructions in Hebrew were distinguished as follows: a) Attributive, Identifying, and Specificational sentences; and b) Existential, Locative, and Possessive sentences. The first class – in which the copula is manifested by either: zero, a pause, a 3rd-person personal pronoun (*hu, hi, hem, hen*), or a demonstrative pronoun (*ze, zo*) – is illustrated in (4) below and analysed in this and the following sections. It will be noted that they coincide with the class of "nominal sentences" illustrated in (3) above, but that the distinguishing criteria adopted by us devolve upon the type of proposition in semantic terms rather than strictly surface morpho-syntactic shape.

The second type of copula sentence – expressing Existence, Location, and Possession as illustrated in (2) above – is uniquely characterizable as manifesting the special existential particle *yeš* or its negative counterpart *eyn* in the present tense. Such expressions are considered in Section 6.4.

(4) (i) **Attributive:**

a. hanaxatxa (hi) nəxona
your assumption (is) correct

b. dan (hu) xaver neeman
Dan (is) (a) loyal friend

c. leehov oto ze kaše
to like him it hard
'to like him / liking him is hard'

(ii) **Identifying:**

a. dan hu habaxur še ani carix
Dan (is) the fellow that I need

b. axoti hi haima šel dan
my sister (is) the mother of Dan

(iii) **Specificational:**

a. ma še xašávti hu/ze še tavo maxar
what that I thought he/it that you'll come tomorrow
'what I thought is that you would come tomorrow'

b. tikvaténu hi ləkabel makom šeni
our hope (is) to get second place

Note: The pronominal forms *hu, hi, hem,* and *hen,* 'he', 'she', 'they (Masc)', and 'they (Fem)', respectively, are often rendered as 'is' or 'are' in the gloss, merely for convenience. This practice does not imply any substantive claim, however. (See Section 6.3.2.)

The sentences listed in (4) above are all of the type defined as "nominal sentences" in traditional Hebrew grammars. The value of this notion for the characterization of contemporary Hebrew structure can be questioned – though it may explain certain aspects of Biblical syntax. Firstly, the idea of a "nominal" sentence focuses strictly on surface structure, and fails to capture the semantic equivalence of sentences such as those in (3) and (4) above with their past and future tense or non-finite

counterparts, in each of which some form of the verb h–y–y is overtly manifested.[2] Similarly, the (b) sentences in (1) and (2) above are typically dissociated from their (a) counterparts. Were this formal difference a property of all and only Semitic languages, there might be some justification for this view. But even a non-Semitic language such as Russian need not manifest an overt form of the copula in present-tense contexts, and the notion of "nominal sentence" in Arabic grammars generally has a rather different connotation – i.e., a sentence which starts with a noun, distinguishing it from a "verbal sentence," which starts with an actual verb.

Notice, too, that the claim for the existence of nominal sentences as a special category in Hebrew fails to account for the fact that some form of h–y–y will be manifested in two separate classes of constructions in Hebrew – those illustrated in (4) above and those manifesting the existential particle *yeš* in the present tense. As we shall show later, *yeš* can also quite regularly be deleted in present-tense environments in existential, locative, and possessive sentences. Yet the latter are traditionally excluded from consideration in relation to the category of "nominal sentences" (except in the case of locatives – as illustrated in (5-iv) below). This notion thus obscures certain syntactic properties shared by all types of copula sentences in Hebrew – for they not only share some form of the verb h–y–y in all non-present-tense contexts, they may also quite uniquely manifest a zero form of the verb in the present tense. Moreover, copula sentences in the present – and they alone – may manifest some pronominal form which agrees with the Subject NP in number and gender, as shown below. In the first four examples, the pronominal is identical to a third person nominative-case personal pronoun; in the latter two, it is attached enclitically as a suffix on the existential particle *yeš*.

(5) PRONOMINAL FORMS IN PRESENT-TENSE COPULA SENTENCES

(i) **Attributive**

yaldéynu hem makor ləgaava
children our they source for pride
'our children are a source of pride'

(ii) **Identifying:**

X hu nəsi arcot habrit
X he president states the united
'X is the president of the United States'

(iii) **Specificational:**
kavanato hi ləhitkadem ləvad
intention his she to advance alone
'his intention is to advance alone'

(iv) **Locative:**
dan hu baxéder
Dan he in the room
'Dan is in the room' (in answer to 'Where is Dan?')

(v) **Existential-Locative:**
dan yešno baxéder
Dan is+PRO in the room
'Dan is in the room' (in answer to 'Who is in the room?')

(vi) **Existential-Universal:**
habaaya yešna
the problem is+PRO
'the problem exists'

We consider the nature and occurrence of such pronominals later in this chapter.

For the reasons noted above, we consider the notion of a "nominal sentence" to have no relevance except at the level of surface structure. All predicate structures may then be uniformly characterized as follows:

(6) $_{VP}[V \quad X \quad Y]$

The first element, V, is the obligatory head of any predicate; X and Y represent various possible complement structures, including zero.[3] Just in case the predicate is of the copula type, with all the special properties which that entails, the first element V will be marked for the unique property of [+COP].

Note that we ignore the question of whether the copula itself should be transformationally introduced to derive the surface form of sentences of the type under discussion here (as advocated, for instance, by Bach 1967), or whether it should be characterized as an independent deep-structure constituent (as claimed by Chomsky 1965, Chapter Two). It seems that the arguments for and against each of these two views are best considered in the context of universal grammar; that is, the special structure of Hebrew copula constructions can be accounted for within which-

ever underlying analysis is shown to be better motivated and hence more explanatory for all languages.[4]

6.3 PRONOMINALIZATION OF SUBJECT NP

A well-known feature of so-called "nominal sentences" in Hebrew is that they may contain a constituent which seems, on the surface, to function as a "substitute-copula." Thus, the constituent underlined in the following sentences is generally termed *oged* in Hebrew grammars, literally 'linker', in grammatical terms 'copula'.[5]

(7) a. dan hu axi
Dan (is) my brother

b. kol haanašim še hayu šam hem xaverim tovim šeli
all the people that were there (are) good friends of mine

c. habaaya hanidona hi svuxa vəkaša ləfitaron
the problem under discussion (is) complex and hard to solve

d. hakosot hen hamitbax
the glasses (are) in the kitchen

The underlined forms are identical to third-person pronouns, and they agree with the Subject N in number – singular *hu* in (a) and plural *hem* in (b) – and in gender – feminine *hi* in (c) and *hen* in (d). They are also redundant, in the sense that the same sentences could be interpreted as present-tense copula sentences if the forms were omitted.

Two main questions arise in connection with the characterization of this pronominal element: firstly, given that in the examples in (7) above the pronoun is optional, are there instances where it is either obligatory or prohibited? And how does it alternate with other suppletive forms of the copula in the present tense – not only zero, but the demonstrative *ze* or a pause? Secondly, what kind of constituent structure should be assigned to present-tense copula sentences manifesting zero or a pronominal on the surface? For instance, should such elements be assigned to a V node – as would seem appropriate for the various realizations of h–y–y in non-present-tense sentences? We consider each of these questions in turn below.

6.3.1 Distribution of Copula Morphemes in the Present Tense

Consider first the sentences in (7) above. Examples (a) and (d) are equally well-formed with or without a pronominal, yet those in (b) and (c) seem preferable when they contain a pronoun – or at least a pause.

This seems to be due to the fact that in cases where the Subject NP is relatively long and complex, and hence removed from its Predicate by a large number of morphemes (or syllables), some overt indication of the copula "slot" seems to be required. This is illustrated by the dubiousness of the forms in (b) below, compared with (a) and (c) respectively:

(8) (i) a. habaaya (hi) svuxa
the problems (is) complex

b. ?habaaya še anu omdim ladun ba svuxa
the problem that we are about to talk on (it) (is) complex

c. habaaya še anu omdim ladun ba hi svuxa

(ii) a. hayəladim (hem) baxuc bagina
the children (are) outside in the garden

b. ?hayəladim hadrušim ləxulanu bəréga ze baxuc bagina
the children needed by us all right now (are) outside in the garden

c. hayəladim hadrušim ləxulanu bərega ze hem baxuc bagina

In cases (a), where the Subject NP is a simple expression, the pronominal copy is optional, but in cases (b), where the Subject NP is rather complicated, a pronominal copy is required – as in (c) – to demarcate Subject from Predicate quite unambiguously. This type of "performance constraint" in terms of distance or length is typical of the requirement of clarity in actual speech, and can be explained in quite general perceptual terms. Moreover, the sentences in (b) are improved, if a pause is introduced between Subject and Predicate – again indicating that the factor involved here is one of perceptual clarity.

The question of whether a pronominal is obligatory or optional in present-tense copula sentences is discussed in some detail by Rubinstein, who provides a great deal of data cited from various written texts (1968, 60-139). Yet we cannot fully agree with his claim that "in most texts a significant contrast in meaning is indicated by the *∅/hu* contrast" (p. 82), particularly in view of the examples he gives to illustrate this point:

(9) (i) a. haec gavóa 'The tree is high' (sic)
b. haec hu gavóa 'The tree is a high one'

(ii) a. hapəula pšuta 'The action is simple'
b. hapəula hi pšuta 'The action is a simple one'

Rubinstein's claim is that sentences of the form $\{N + A\}$ have an **attributive** sense as against those with the form $\{N + PRO + A\}$, which tend to have a specifying sense, or to be ambiguous as between an attributive and a specificational interpretation. The distinction he makes is a nice one, but it does not seem to accord with the **synonymy** which large numbers of native informants seem to attribute to the (a) and (b) sentences in (9). In fact, we shall claim that the occurrence or non-occurrence of the pronominal "linking" element typically has no semantic purport in terms of such notions as type of assertion, focus, etc.

A more promising line of inquiry in this connection relates to the definiteness of the Subject NP.[6] It seems that in order for pronominal copying to be grammatical, the NP must be either [+GENERIC] or [+DEFINITE], or both. Thus:

(10) (i) a. *yéled hu baxuc
(a) boy (is) outside

b. yéled hu yicur muzar
(a) boy (is) (a) strange creature

c. hayéled (hu) baxuc
the boy (is) outside

(ii) a. *sfarim hem rəcuyim kaet
(some) books (are) necessary now

b. sfarim hem kol xayay
books (are) all my life

c. hasfarim (hem) šelánu
the books (are) (of) ours

(iii) a. *xavera hi ecli kaet
(a) girlfriend (is) with me now

b. xavera hi/ze davar xašuv
(a) girlfriend (is) (an) important thing

c. xaverti (hi) ecli kaet
my girlfriend (is) with me now

The Subject NP's in (b) are generic, those in (c) are definite, and hence the expressions are well-formed compared with those in (a). In generic expressions, like those in (b), a pronominal form is mandatory, whereas in expressions with a definite, non-generic Subject, like those in (c), it is optional. Moreover, the form of generic NP's may be unmarked, as in (b) above, or they may take the definite marker *ha-*. Thus, the Subjects in the

(i-b) and (ii-b) above could also be rendered as *hayéled, hasfarim*, respectively.[7] A special question arises in connection with the use of the demonstrative pronoun *ze* 'this, it', as in (iii-b) above, which we return to later.

Pronominal copying is also mandatory where the complement of the copula sentence is sentential (as in examples (1-iv) at the outset of this chapter). This explains why in the (a) examples below, the pronoun is optional – as against the examples in (b) with contrasting (c).

(11) (i) a. hasakana (hi) mamašit
the danger (is) real

b. hasakana hi še tikašel bamsima
the danger (is) that you'll fail in the task

c. hasakana še tikašel bamsima
the danger that you'll fail in the task (is real)

(ii) a. hadérex hayəxida (hi) zot
the only way (is) this (one)

b. hadérex hayəxida hi ləfater oto
the only way (is) to fire him

c. hadérex hayəxida ləfater oto
the only way to fire him (would be to ....)

(iii) a. hainyan (hu) xašuv
the issue (is) important

b. hainyan hu ex nəmamen et hamivca
the issue (is) how we'll finance OM the project

c. hainyan ex nəmamen et hamivca
the issue (of) how we'll finance OM the project (needs to ...)

The sentences in (a) – with non-sentential complements – may occur with or without a pronoun; the sentences in (b) must have a pronoun – for if not, they are interpreted as complex NP's, as in (c), and not as complete sentences. That is, a pronominal copy is used here to provide an overt distinction between surface-structure S's and surface-structure NP's: compare, for instance, *hašəela hamerkazit hi šelánu* 'the central question is ours' / *hašəela hamerkazit šelánu* 'the central question of-us = our central question'. In such cases, too, the pronominal copy has no independent **semantic** content; it occurs as a kind of performance variable, to provide for surface disambiguation of potentially identical strings with different

constituent structures. Evidence for this claim is provided by the fact that in speech, a pause could be used with exactly the same effect as the pronouns which occur in the (b) sentences in (11).

Notice that in informal colloquial usage, the demonstrative *ze* tends to replace the more normative personal pronoun in all the (b) examples in (11) above – even where its masculine form does not agree with the feminine gender of the subject nouns *hasakana* and *haŠəela* in (11-i) and (11-iii). This is in accordance with a general trend we consider in more detail below: the demonstrative *ze* tends to be taking over the role of the personal pronouns as a sort of unmarked copy of the Subject NP in present-tense copula sentences.

Consider next the question of copula sentences which have sentential Subjects. The topic is discussed in some detail by Rubinstein (1968), but we reach rather different conclusions, notwithstanding the large number of documented examples he cites. Consider the following sets of data:

(12) (i) a. lisxot kan mutar
to swim here (is) permitted

b. lisxot kan ze mutar

c. *lisxot kan hu mutar

d. hasxiya kan (hi) mutéret
swimming here (is) permitted

(ii) a. ləašen kan avera
to smoke here (is) (a) transgression

b. ləašen kan zo avera

c. *ləašen kan hi avera

d. haišun kan hu avera
smoking here (is) (a) transgression

The following facts emerge: we see that if the surface Subject is an infinitival phrase, the sentence is well-formed both without a pronominal copy, as in (a), and with one, as in (b) – however, the pronoun here takes the special form of *ze* (required, normatively, to agree with the **complement** in gender, hence *zo* in (ii-b) to accord with the feminine noun *avera*), and the normal pronominal form is disallowed, as in (c); where the surface Subject is a derived nominal such as *sxiya* '(the act of) swimming' or *isun* '(the act of) smoking', as its head, the appropriate personal pronoun *hi* or *hu* is required, as in (d), rather than *ze, zo*. In other words, *hu* is used to pronominalize ordinary NP's, including those with an

abstract, derived nominal such as *sxiya* or *išun* as head; but the demonstrative pro-form *ze* is used just in case the subject NP is a sentential expression – specifically, an infinitival or a *še-* 'that' clause:

(13) (i) a. ləhitnaged lo ze tipši
to oppose him (is) silly
b.*ləhitnaged lo hu tipši

(ii) a. še nitnaged lo ze tipši
that we oppose him (is) silly
b.*še nitnaged lo hu tipši

(iii) a.*hahitnagdut lo ze tipši
opposition (to) him (is) silly
b. hahitnagdut lo hi tipšit

The sentences in (13) illustrate the same alternations: the demonstrative *ze* is used with sentential subjects – as in (i-a) and (ii-a); the personal pronoun or *hi* is used elsewhere, including where the Subject NP is a derived noun, as in (iii-b). In actual usage, however, the tendency seems very strong to use *ze* throughout, as the examples below demonstrate, where the (a) sentences show the normative form and the (b) sentences show colloquial usage:

(14) (i) a. haišun kan hu asur
smoking here (is) forbidden
b. haišun kan ze asur

(ii) a. hahitnagdut lo hi tipšit
(the) opposition (to) him (is) silly
b. hahitnagdut lo ze tipši

(iii) a. haməxonit hi hamcaa gəonit
the car (is) (an) invention of genius
b. haməxonit ze mamcaa gəonit

Note; further that, as mentioned earlier with respect to the example in (12-ii,b), the pro-sentential form *ze* is required to agree with the head of its predicate in gender and number, just in case it has an NP as predicate (elsewhere the unmarked form *ze* will be used). Thus:

(15) (i) a. ləašen kan ze taanug
to smoke here (is) (a)pleasure (Masc)

b. ləašen šam zo avera
to smoke there (is) (a) transgression (Fem)

(ii) a. ləharbic lo ze maase lo yafe
to hit him (is) deed (Masc) not nice = 'a not nice deed'

b. ləharbic lo vəlakáxat et haóxel šelo éle
to hit him and to take OM his food these(=are)
maasim lo yafim
deeds (Pl) not nice

In actual usage all these constraints are rarely observed, and the unmarked "impersonal" pronominal form *ze*, rather than feminine *zo* or plural *éle*, is used throughout. Moreover, colloquial usage would seem to countenance all of the following, in place of the more normative personal pronouns *hu, hi, hem,* and *hen.*

(16) (i) kúmzic ze davar nexmad
(a) campfire (is) (a) nice thing

(ii) habaaya hazot ze inyan musbax məod
the problem (is) (a) very complicated matter

(iii) maasim kaéle ze moci oti midaati
deeds like that (it) drive(s) me out of my mind

(iv) hašəela še šaálta ze xasar taam laxalutin
the question that you asked (is) completely without sense

Where this usage is adopted, the complement will be in the masculine singular, agreeing with the unmarked *ze* rather than with the subject NP in number, as in (iii), and in gender, as in (iv). Note, moreover, that this use of *ze* is not confined to Attributive-type propositions like those in (16), but may be used with Specificational expressions (e.g., *hamištara ze haguf še mətapel babaaya* 'the-police (Fem, Sing) it=is the-body that deals with-the-problem') as well as with Identifying ones (e.g., *david ze habaxur še nivxar latafkid še raciṫa* 'David it=that's the-fellow that was-chosen for-the-job that you-wanted').

An interesting constraint seems to apply to sentences of the type illustrated in (16), even in very permissive colloquial usage: they evidently require non-human subject NP's. Thus: ?*dan ze baxur nexmad* 'Dan it=is (a)nice fellow' is dubious, whereas *dan ze šem nexmad* 'Dan it=is (a)nice

name' is quite acceptable. Note that this restriction does **not** apply to Proper Nouns in general, as evidenced by the well-formedness in colloquial style of, for instance: *xáyfa ze makom maksim* 'Haifa it=is (a)charming place', and *micráyim ze érec hanílus* 'Egypt it=is the-land-of the-Nile' – in violation of the general rule that assigns Feminine Gender to all place-names.

The facts of usage thus indicate a strong tendency to use the more neutral form *ze* throughout. A countertrend is, however, manifested with certain kinds of sentential subjects – particularly in Specificational constructions – as illustrated in (4) above – where colloquial usage often replaces the expected *ze* by *hu*, as follows:

(17) a. ma še xašávti ze še taazor lanú
what (that) I thought (is) that you will help us

b. ma še kaše li hu lašévet ləvad kol hazman
what (that) difficult (for) me (is) to sit alone all the time

This phenomenon can probably be explained as a case of hyper-correction.

We consider next the occurrence of pronominal copies of the Subject NP in copula-type Relative Clauses – a topic considered in some detail by Hayon (see fn. 6).

(18) RESTRICTED RELATIVES

(i) a. iša še asuka babáyit lo tece laavod
(a)woman who (is) busy at home won't go out to work

b. ?iša še hi asuka babáyit lo tece laavod

(ii) a. habaxurim še al hagag báu lətaken et haanténa
the fellows who (are) on the roof came to fix OM the aerial

b. ?habaxurim še hem al hagag báu lətaken et haanténa

(19) NON-RESTRICTIVE RELATIVES

(i) a. ?haima šeli še asuka babáyit lo tece laavod
my mother who (is) busy at home won't go out to work

b. haima šeli še hi asuka babáyit lo tece laavod

(ii) a. ?dan vəyosef še al hagag báu lətaken
Dan and Joseph who (are) on the roof came to fix
et haanténa
OM the aerial

b. dan vəyosef še hem al hagag báu lətaken et haanténa

In general, Restrictive Relative clauses in Hebrew do not allow a pronominal copy of the Subject NP – and this constraint would account for the dubiousness of the (b) sentences of (18), irrespective of whether the head NP is Generic, as in (18-i) or not, as in (18-ii). This constraint is not confined to Present-Tense Copula-type Relatives, but also accounts for the ill-formedness of, say, **iša še hi avda baxuc* '(a)woman that she worked outside = away from home' or **habaxurim še hem báu lətaken et haanténa* 'the-fellows that they came to-fix OM the-aerial', for just the same reason as their English versions are ungrammatical. Non-restrictive Relative Clauses do, however, allow such Subject pronominal copying, which explains the well-formedness of, say, *išti, še hi avda baxuc kol hašanim* 'my wife, that she worked outside all the-years'. What is special about Present-Tense Copula constructions is that they tend to require a pronominal copy of the Subject just in case they function as Non-restrictive Relatives, which explains the question-mark in the (a) sentences of (19). To sum up, then: a pronominal copy of the Subject NP is disallowed in any kind of Restrictive Relative Clause, is allowed in any kind of Non-restrictive Relative Clause, and is required in case the latter takes the form of a Copula sentence in the Present-Tense. These alternations are particularly worth noting in view of the fact that Hebrew, unlike English, generally makes no overt distinctions between Restrictive and Non-restrictive Relatives.

Next, note that in sentences expressing Identity, the pronominal morpheme is optional if the subject is itself a pronoun, as in (20), but obligatory if the subject is a full NP – as in (21). Thus:

(20) a. ata haiš (še xipásti)
you the man (that I sought)
'you're the man (I was looking for)'

b. ata hu haiš (še xipásti)

(21) a. *dan manor haiš (še xipásti)
Dan Manor the man (that I sought)

b. dan manor hu haiš (še xipásti)
Dan Manor (is) the man (that I sought)

Again, *ze* is quite generally used in such contexts in casual colloquial speech; for instance, "The K.K.L. is the J.N.F." might be rendered as *ha ka-ka-el ze ha jey-en-ef.* Note that (21-a) is well-formed if it is interpreted as an appositive NP – in the sense of 'Dan Manor, the man I was looking for' – but not as a sentence meaning 'Dan Manor is the man I was looking for'. As noted earlier, the obligatory requirement of a pronoun seems to distinguish between two kinds of syntactic structures, and to disambiguate an expression such as *dan hatipeš* to mean only 'Dan, the fool' as compared with *dan hu hatipeš* 'Dan is the fool'. This accords with what was noted above in connection with Relative Clauses. Compare, for instance:

(22) a. dan tipeš
b. dan hu tipeš } = 'Dan is (a) fool'

c. *dan še tipeš
d. dan še hu tipeš } = 'Dan, who is a fool, ...'

Finally, note that in a special kind of Attributive expression, where the same N occurs both in the surface Subject and in the complement NP – a common kind of construction in Hebrew – the pronominal copy is again mandatory. Thus:

(23) (i) a. *hamifal šelánu mifal məusar
our concern (is) (an)approved concern
b. hamifal šelánu hu mifal məusar

(ii) a. *hakita kita tova
the class (is) (a)good class
b. hakita hi kita tova

(iii) a. *harakdaniyot haéle rakdaniyot béten
those dancers (are) belly dancers
b. harakdaniyot haéle hen rakdaniyot béten

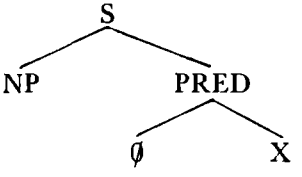
In summing up this section concerning the distribution of zero, a personal pronoun, or a demonstrative in Present-Tense Copula sentences, we see that the constraints allowing, requiring, or blocking a particular form are generally determined by the surface syntactic structure of the Subject and/or Predicate elements rather than by semantic considerations of type of proposition – such as attributive compared with identifying or

specificational. (For further examples and discussion of such constraints, see Berman and Grosu 1976, Section 1.) Our investigation has led us to the conclusion that the occurrence of a pronominal suppletive form in Present-Tense Copula constructions has no independent semantic content, and that it makes no difference to what the sentence means. Rather, it has a psycholinguistic kind of function as an aid in sentence-processing, specifically by demarcating Subject from Predicate or Predicate from Subject in cases where the surface constituent structure is not immediately apparent: where one of the two constituents is particularly long or "heavy" or where the expression as a whole might be interpreted as a complex NP rather than as an independent sentence. This claim is supported by the fact that in such cases, the pronominal form can regularly be replaced by a pause in the stream of speech. Finally, note that colloquial usage shows a marked tendency to prefer the more neutral demonstrative *ze* in a wide variety of contexts where normative style would require either zero or the personal pronouns *hu, hi, hem*, or *hen*. This trend seems to argue against the view – to be considered in the discussion which follows – that these pronominal suppletors in some sense "are" copula verbs.

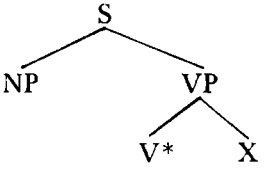
6.3.2 Constituent Structure of Present-Tense Copula Sentences

As noted earlier, the traditional view implies that there are two basic sentence-types in Hebrew: "nominal" sentences as depicted in (24-i) and all the rest, as depicted in (24-ii):

(24) (i)



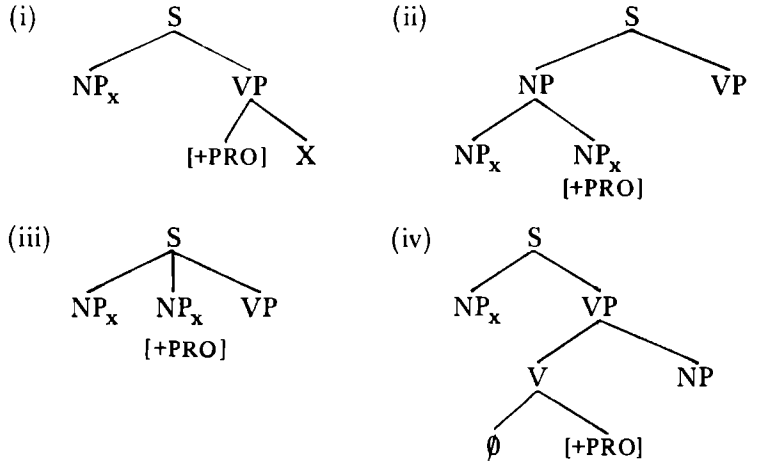
(ii)



where the V* in (ii) stands for any main verb – including the verb h–y–y, represented in (i) by zero, and where X is any unspecified complement which in (ii) but not in (i) may itself be zero (see fn. 3).

The question to be considered here is the categorial status of the pronominal suppletive forms of the copula in present-tense sentences – whether a personal pronoun like *hu, hi* or the demonstrative *ze* – and hence of the constituent structure of present-tense copula sentences in general. There are various logical possibilities of analysis, as shown below, the constituent in question being indicated by [+PRO] each time.

(25) POSSIBLE CONSTITUENT-STRUCTURE CONFIGURATIONS FOR PRESENT-TENSE COPULA SENTENCES WITH PRONOUNS



The structure shown in (i) above represents the claim that *hu, hi*, etc. are not so much pronominal copies of the Subject NP as external manifestations of the verb h–y–y in the Present Tense; that is, they come together with the verb h–y–y, with which they alternate in the Present, under the single label "copula." This view is held by several contemporary Hebrew grammarians (see, for instance, Hayon 1969, 82; Ornan 1965, 24; and Rosen 1962, 112-113) – possibly in reaction to the traditional view to be noted below. It is, however, rejected by Rubinstein (1968, 116-120) – for rather different reasons than the ones we outline below. The analysis suggested in (i) above seems to us to have the following weaknesses: It does not account for the general synonymy of sentences with a zero copula and with a pronominal suppletor respectively, as discussed in Section 6.3.1 above. Not does it account for the largely **noun-like** syntactic behavior of these pronouns in copula sentences, as demonstrated in Berman and Grosu 1976. It wrongly identifies these suppletors with a verbal constituent, in a way which is contradicted by the phrase-structure patterning of such constructions. Compare the following, where the morpheme *ken*, literally 'yes', has the effect of sentence-affirmation in colloquial usage, much like emphatic stress on *do* (or auxiliary *have, be*, or a Modal) in English:

(26) (i) a. dina KEN roca baxur nexmad
Dina DOES want (a)nice fellow

b. *dina roca KEN baxur nexmad

(ii) a. dan KEN haya baxur nexmad
Dan INDEED was (a)nice fellow

b. *dan haya KEN baxur nexmad

(iii) a. *dan KEN hu baxur nexmad
Dan YES he (a)nice fellow

b. dan hu KEN baxur nexmad
Dan he YES (a)nice fellow
'Dan IS a nice fellow'

Moreover, it is true that the words *hu, hi* – in the most abstract analysis following the orthographic clues /huw?/ 'he' and /hiy?/ 'she' respectively – do bear a morphophonemic resemblance to words related to the copula root h–y–y and also the the root h–w–y underlying such words as *hiva* 'constitute',[8] *havaya* 'being=essence', and *hove* 'present' (with reference to tense or time); yet the forms *hu* and *hi* are today identified quite clearly and exclusively with the system of personal pronouns and the contemporary tendency to replace them by the demonstrative *ze*, as noted in the preceding section, accentuates their pronominal rather than verbal character. Then, too, the verb 'be' – in the existential sense at least – does have an attested present-tense form found, for example, in medieval liturgies in such a context as: *hu haya, hu hove, hu yihye* 'He (i.e., God) was, is, will-be'. Notice that a sequence such as *hael hove* 'The-Lord is=exists' cannot be paraphrased by **hael hu* – again weakening the claim that *hu* is a substitute for the present-tense form of h–y–y.[9] True, the form *hove* or feminine *hova* and plural *hovim, hovot* are typically not manifested on the surface in contemporary Hebrew, but they would be interpreted quite unambiguously by speakers as the present-tense version of 'be=exist'.[10]

Another argument against the analysis implied by (25-i) is the following: the existential particle *yeš* and its negative counterpart *eyn* can – and in some contexts must – be associated with a suffixal pronoun copy of the Subject NP. Thus: *hu yešno šam* 'he is+PRO there', *hem yešnam šam* 'they are+PRO there'; and *hu eyno šam* 'he (is) not+PRO there', *hem eynam šam* 'they (are) not+PRO there'. Notice, too, the various possibilities of negation of, say *habuba (hi) šeli* 'the-doll (it is) mine'; in addition to colloquial *habuba (hi) lo šeli* 'the-doll (it is) not mine', there

are also *habuba eyna šeli* 'the-doll (is) not+PRO mine' and the more emphatic *habuba – eyn hi šeli*, where the dash indicates a pause. We discuss such constructions in more detail in the next section; here we merely note that the structure represented by (25-i) does not allow for a single generalization about the process of pronominal copying of Subject NP's in various types of present-tense copula constructions.

The same problem arises in connection with the analysis represented by (25-ii), which otherwise does seem to characterize the case of present-tense copula sentences whose Subject NP is copied as a personal or demonstrative pronoun, as a kind of "sister-node" to the Subject NP. More crucially, this analysis runs counter to the intuition of native speakers who, when asked to divide such sentences as the following into two major elements, almost invariably note a break between the subject and the rest of the sentence – as indicated by / below:

(27) (i) a. dan / hu yéled nexmad
Dan he (is) (a)nice boy

b. *dan hu / yéled nexmad

(ii) a. kol haohavim / hem ivrim
all lovers they (are) blind

b. *kol haohavim hem / ivrim

(iii) a. ma še ani roce / ze lašévet bəšéket
what (that) I want it is to sit in peace

b. *ma še ani roce ze / lašévet bəšéket

These facts seem to contradict the evidence cited in Berman & Grosu 1976, further demonstrated in (26) above, to the effect that the pronominal suppletor is in some sense more closely associated with the Subject NP than are verbs, whether the copula verb h–y–y or any other verb. However, they seem to us to provide a strong argument against accepting the analysis of (25-ii), which implies that there is no break between the Subject NP and its pronominal copy.

The structure proposed in (25-iii) is in line with the traditional view of such constructions in Hebrew grammar as being uniquely "tripartite." It is also appealing because it represents a copying process which is independently required by the grammar of Hebrew to account for the type of topicalized structure known as *mišpat yixud*, literally, 'singularization sentence'. (See Ornan 1967 for a description of these structures.) We refer to such expressions as the following:

(28) a. yəladim kaéle — ani lo sovel otam
children like that — I (can)not bear OM them

b. haiš haze — išto bagda bo
that man — his wife betrayed (in)him

c. hakise še ata məxapeš — binxa yošev alav
the chair that you are seeking — your son is sitting on it

d. habáyit šelánu — crixim licbóa et kirotav
our house — (we)need to paint OM its walls

e. bet horey dan — curat gago yafa meod
Dan's parents' house — the shape of its roof (is) very pretty

The process illustrated above is as follows: a given NP is topicalized by being copied and then brought out to the front of the sentence, and it is separated from the rest of the sentence by an intonation-break (indicated by the dash in the above examples); the rest of the sentence remains the same, retaining a **pronominal** trace of the extraposed NP (indicated by the underlined elements). The NP in question may be a "direct object" as in (a), an oblique object as in (b) and (c), or the head of a genitive construction as in (d) and (e); in each case the Pronoun will manifest the features of the extraposed NP in Gender, Number, and in Case. This process can be roughly characterized as follows:

(29) *yixud* TOPICALIZATION: $_S[X \quad NP \quad Y]$
1 2 3

⇒ 2 ## 1 PRO-2 3

Note that the examples in (28) contain no instances of an extraposition of the Subject NP; such a situation would arise were X — element 1 in (29) — zero, for then the NP to be extraposed would be the leftmost NP in the sentence (its surface Subject), and the pronominal copy would have to be in **nominative** case — namely, *hu, hi, hem, hen.* Implicit in a structure of type (25-iii), then, is the claim that the occurrence of these pronouns in present-tense copula sentences is the result of what has been termed a "left-dislocating" extraposition of the Subject NP. This claim, however, is brought into question by such expressions as the following (corresponding to the sentences in (7) above):

(30) a. dan hu haya axi
Dan he was my brother

b. kol haanašim še hayu šam hem yihyu xaverim tovim
all the people that were there they will be good friends

c. habaaya hanidona hi hayta svuxa vəkaša
the problem under discussion it was complicated and hard
ləfitaron
to solve

d. hakosot hen hayu bamitbax
the glasses they were in the kitchen

In these sentences the underlined pronominal copy occurs together with some overt form of h–y–y; the more normal or natural form of such expressions is without any pronominal copy, and where it occurs it has a focusing effect. Thus, the sentences in (30) are well-formed just in case they are interpreted as topicalizations, with a pause between the Subject NP and its pronominal copy. This means, then, that *yixud* topicalization is possible in sentences with h–y–y.

A related type of construction which similarly argues against the analysis implied in (25-iii) is one in which both the demonstrative and the third-person pronoun may occur in the same sentence. Thus:

(31) ləašen bateatron uləfacéax garinim bakolnóa
to smoke in the theater and to crack seeds in the cinema

éle hem maasim lo yafim
those they (are) not nice deeds

Here, *éle* – the plural form of *ze*, required by the conjoined Subject NP – is clearly the copula-suppletive morpheme, required because of the length of the Subject NP, as discussed earlier; the personal pronoun *hem* is optional, and it clearly serves an emphatic function, the result of topicalization. A parallel construction is found in such emphatic sentences as the following, where in colloquial speech the demonstrative *ze* or *zo(t)* is blended phonologically with the personal pronoun *hu* or *hi* into a single word:

(32) (i) hamašber šelo zéhu inyan xamur
his crisis it-he (is) (a)serious matter

(ii) livkot kaxa zóthi buša
to cry like that it-she (is) (a)disgrace (Fem)

Moreover, a pronominal copy of the Subject NP is possible even in present-tense copula sentences whose Subject NP is itself a personal pronoun; sentences such as those in (33) below will be interpreted as topicalized, requiring special emphasis:

(33) a. hu HU axi
he he my brother
'HE is my brother (and no one else)'

b. hem HEM haxaverim šelánu
they they our friends
'THEY (are the ones who) are our (real and only) friends'

c. hi HI habaaya hanidona
it it the problem under discussion
'IT (and it alone) is the problem under discussion'

Sentences such as those in (33) seem to represent a quite unique kind of structure, in which both topicalizing of the Subject NP and ordinary copula insertion have taken place concurrently – a strong argument against identifying copula insertion with the *yixud* topicalizing process. Evidence for this claim of the "dual process" manifested in (33) is provided by such facts as the following: this same interpretation is not possible with non-definite complements – as shown by the ill-formedness of the (34-i) counterparts of the sentences in (33); but pronominal subjects can themselves undergo topicalization – irrespective of whether they are present-tense copula constructions, as in (34-ii), or sentences with regular main verbs, as in (34-iii):

(34) (i) a. *hu HU (ax) tov
he he brother good
'he's a good brother / he is good'

b. *hem HEM (xaverim) šeli

c. *hi HI (baaya) kašá

(ii) a. HU – hu ax TOV

b. HEM – hem xaveRIM šeli

c. HI – hi baaya kaŠA

(iii) a. HU – hu ba ləvaker KOL šavua
HE – he comes to visit EVERY week

b. HEM – hem lo yodim ma laaSOT kvar
THEY – they (do)not know what to DO by now

c. HI – hi crixa ləhaxlit ləVAD
SHE – she must (to)decide on her OWN

The examples in (34-ii) and (34-iii) are typical instances of what has come to be known as "left-dislocating" topicalization – in this case of a surface structure pronominal Subject. Moreover, this is equally likely when the Subject pronoun is in 1st- or 2nd-person, both in copula sentences like those in (a) below and in main verb sentences like those in (b):

(35) (i) a. aNI – ani tipeš gamur
I – I (am) (a)complete fool

b. aNI – ani tamid məaxer laavoda
I – I always come late for work

(ii) a. aTEM – atem məsubaxim miday
you [MASC, PL] – you (are) too complicated

b. aTEM – atem racítem ləšanot et hataarix
you – you wanted to change OM the date

The sentences in (34-ii) and (34-iii) as well as those in (35) can all be accounted for in terms of a derived structure like the one represented in (25-iii), the latter deriving from a left-dislocating topicalization which has precisely a focusing effect. Thus, the sentences in question could be paraphrased by 'As for me, I'm a complete fool', 'As for you (people), you (are the ones that) wanted to change the date', 'As for him, he comes to visit every week', and so on.

A related type of phenomenon is manifested by copula sentences expressing Identity in the present tense. Thus:

(36) a. aNI hu haiš
I he the man
'it is I who am the man'

b. aTA hu hexašud
you he the suspect
'it is you who are the suspect'

c. ʔaNI hi habaxura
I she the girl
'it is I who am the girl'

d. ʔaTEM hem haanašim
you(Pl) they the people
'it is you who are the people'

The effect achieved by having a 3rd-person pronoun "copy" following a non-third-person pronoun Subject is of a kind of "clefting," with its concomitant emphasis, manifested by the obligatorily contrastive stress on the Subject pronoun. The same effect is achieved in non-Present Tense environments by the occurrence of an overt, stressed Subject Pronoun where person-inflections on the verb make it unnecessary, as in *ani hayíti haiš* 'I was+1st-Person the-man' or *ata hayíta hexašud* 'you were+2nd-Person the-suspect'. Note that in actual usage, a pronominal "copy" of the Subject Pronoun with which it agrees in Number and Gender but not in Person – as in (36-a) and (36-b) – seems restricted to Masculine Singular pronouns – hence the oddness of (35-c,d). In other words: (i) the pronominal copy of a Subject NP must take the form of a 3rd-person pronoun, irrespective of the Person value of the Subject; (ii) just in case the Subject NP is 1st- or 2nd-person, pronominal copying is restricted to the masculine singular – as in (36-a,b) compared with (36-c,d); (iii) where conditions (i) and (ii) are met, the effect of a copying of a pronominal Subject is a kind of "clefting" for special emphasis: if the two pronouns are identical the copy is given contrastive stress, as in (33); if the two pronouns differ in value of Person, the original Subject NP is given contrastive stress, as in (36-a,b).

The examples considered above indicate the following: just in case a 3rd-person pronominal copy of the Subject NP occurs either in non-present tense copula sentences, as in (30) above, or in present-tense copula sentences with a Subject which itself is a pronoun, as in (33) and (36) above, the effect will be of a clefting type of topicalization similar to the focusing entailed by normal NP extraposition and pronominal copying of the type termed *yixud*, as illustrated in (28) above.

However, and this is the main argument against the implications of (25-iii), other instances where a pronominal copy of the subject NP shows up in present-tense copula sentences, as discussed in Section 6.3.1 above, are not interpreted as emphatically topicalized. That is, where the pronoun is optional, there is no difference in emphasis, (a) and (b) below being quite synonymous:

(37) (i) a. dan haxaver haxi tov šeli
Dan (is) my best friend
b. dan hu haxaver haxi tov šeli

(ii) a. šəelat atidénu xašuva məod
the question of our future (is) very important
b. šəelat atidénu hi xašuva məod

(iii) a. habecim bamitbax
the eggs (are) in the kitchen
b. habecim hen bamitbax

In view of the lack of difference in emphasis or focus perceived by native speakers between version (a), with a zero copula, and version (b), with a pronominal morpheme, the proposal that the latter type be analysed as deriving from a process of *yixud* topicalization seems unfounded.

For the reasons enumerated above, as well as for others noted by Berman and Grosu (1976), it seems that the pronominal form occurring in present-tense copula sentences should not be identified with any kind of clefting or topicalization.

The fourth possible analysis – represented in (25-iv) – has been suggested by A. Grosu. The advantage of such a proposal is that it allows for a uniform analysis of the pronominal element in so-called "nominal sentences" as well as in existentials and locatives. Note that the fact that we say *dan yešno* 'Dan is (present)' with the enclitic *-no* pronominal attaching to the existential particle *yeš* suggests the need for a rule such as:

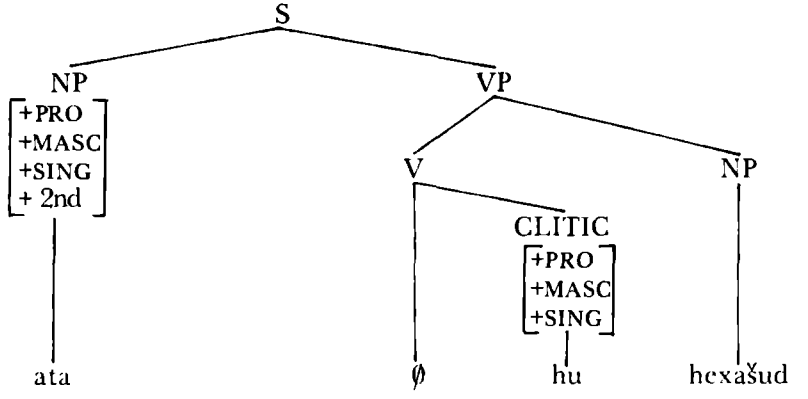
(38) $_S$[NP V X]
1 2 3
⇒ 1 2+PRO 3 , where 1 and PRO agree in Number & Gender.

That is, rather than dislocating 1, it is suggested that we leave it in place and dislocate the features of Number and Gender, and attach them to V. Such a rule has the following advantages: i) it does not entail the focusing of the Subject – which, as noted earlier, erroneously implies that present-tense copula sentences with pronominal copies are more emphatic than those with zero copula; ii) it explains the peculiar nature not only of present-tense copula sentences, but of *benoni*-form verbs as described in the previous chapter, in that they manifest agreement with the Subject NP in Number and Gender but not in Person; and (iii) it is independently

needed in a universal grammar in a large number of sentence-types in Balkan and Romance languages, where redundant pronouns (clitics) are very common.

On the basis of rule (38), one may regard *ata hu hexašud* 'you he the-suspect = you are the suspect' of (36) as derived in the same way, and as having the surface form:

(39)



What this analysis involves is thus the attachment of clitics to verbs with zero realization. In further defense of this claim, we may note that there are, after all, free relatives which "modify" a zero head, and genitives as well as quantifiers and demonstratives with zero heads, as in 'I read somebody's article, but I'm not sure whose ∅ it was' or *bikašti et hasfarim haéle, as lama natáta li et hahem* 'I-asked for these books, so why (did)you-give me OM those?'

This proposal is appealing because, as noted, it avoids the problems mentioned with respect to the other analyses in (25). The ordering of elements in rule (38) also accounts for the non-occurrence of the clitic *-o* in *eyn dan babáyit* '(be)not Dan at home' compared with *dan eyno babáyit* 'Dan (is) not at-home' and of the clitic *-am* in *yeš sfarim babáyit* '(there)are books at-home' compared with *hasfarim yešnam babáyit* 'the-books are+PRO at-home' – constructions discussed in more detail in Sections 6.4 and 6.5, in relation, *inter alia*, to the question of the conditions under which a clitic is optional and/or obligatory. Note, finally, that the structure in (39) represents clitic-pronominal attachment as a process of "daughter-adjunction" – an analysis independently motivated by the phonologically suffixal nature of such elements.

To sum up this discussion, we might note that in our consideration of copular suppletives in another context (Berman and Grosu 1976, particularly Section 2), a variety of syntactic tests leads us to the conclusion that these pronominals manifest both verbal and nominal properties – unlike the existential particle *yeš*, which is clearly verbal. It thus appears that two different analyses might be feasible: where the pronominal is immediately dominated by NP, as in (25-ii,iii), or where the pronominal is dominated by VP, as in (24-i,iv). The arguments noted here as well as other evidence provided by Berman and Grosu (1976) strongly suggests, however, that these pronominal copula suppletives are **not** the result of a left-dislocating topicalization of the type termed *yixud* in Hebrew grammars.

6.4 LOCATIVE, POSSESSIVE, AND EXISTENTIAL SENTENCES

In this section we consider expressions of the kind illustrated in (2) at the outset of this chapter. We refer to such expressions as the following:

(40) (i) LOCATIVE/EXISTENTIAL
dan (yešno) babáyit
Dan (is+PRO) at home
hasfarim (yešnam) al hašulxan
the books (are+PRO) on the table

(ii) POSSESSIVE
(yeš) lədan báyit
(there is) to Dan house
'Dan has a house'
(yeš) lánu sfarim rabim
(there are) to us books many
'we have many books'

Note that if the sentences in (i) have a zero copula, they are ambiguous as between an Existential interpretation, where what is being asserted is the existence of Dan or of the books, and a Locative interpretation, where the existence of Dan or the books is presupposed, and their location is being asserted. This ambiguity can be resolved in speech by having main stress on the asserted element – the surface subject in Existentials, the complement in Locatives. Moreover, just in case the particle *yeš*+PRO occurs,

the interpretation is Existential only. Our proposal is as follows: possessives such as those in (ii) should be derived from their Locative counterparts, both types of expressions coming under the single category of Existential expressions. One reason for adopting this uniform approach is that Possessives, Locatives, and Existentials – and they alone – may manifest the special marker *yeš* in present tense. Besides, the grammar of many languages reveals a close connection between these three types of propositions.[11] The connection may not be superficially obvious in a *habere* language like English, which has both *be* and *have*, or French, in which *être* contrasts with *avoir*;[12] but Hebrew manifests this connection overtly: i) these expressions and they alone may have the special particle *yeš* in the present tense; ii) they can be negated only by *eyn* and not by *lo* in the present tense (see Section 6.5 below); and iii) some overt form of h–y–y will be manifested in such sentences in all non-present tense contexts, as illustrated in the (b) sentences of (2).[13]

6.4.1 Existential Locatives

Consider first such expressions as the following:

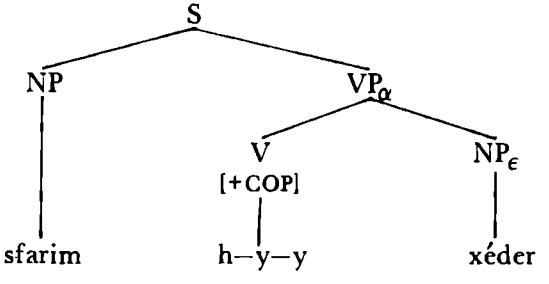
(41) a. yeš sfarim baxéder
(there)are books in the room

b. hayu sfarim baxéder
(there)were books in the room

c. yihyu sfarim baxéder
(there)will be books in the room

Such expressions can be viewed as derived from a sentence-structure with the following shape:

(42)



just in case the case-marking ϵ on the complement NP is [+EXISTENCE]. Normally, as we have seen (Section 5.5.1), if the value α of Tense for the dominating VP is $\emptyset$ – that is, Present Tense – then the copula will be deleted, so that (42) will yield either of the following:

(43) (i) sfarim baxéder
(ii) sfarim hayu/yihyu baxéder

In order to derive the expressions listed in (41) above, two further steps are necessary: if the complement NP is marked for Existence, and the dominating VP is in Present Tense, [COP] may be externally manifested not as zero, as in (43-i) above, but as *yeš*, yielding:

(44) sfarim yeš baxéder

and having no effect on (43-ii), which retains the forms *hayu, yihyu*. Again, note that if the zero copula alternated with a personal pronoun such as *hem* 'they' in (43-i), the sentence would be asserting the **location** of the books, rather than their **existence** in a certain place. Such sentences would be derived in the same way as other types of so-called "nominal sentences", as discussed in Sections 6.2 and 6.3. However, as noted in Section 6.2, the pronominal copy in such instances is possible only if the Subject NP is [+GENERIC] and/or [+DEFINITE]. That is, just as (10-i,a) above **yéled hu baxuc* '(a)boy is outside' is impossible under a locative interpretation, it is well-formed when the particle *yeš* is used to yield *yéled yeš baxuc* (or preferably *yeš yéled baxuc*) in the existential sense of 'there is a boy outside'. This is consistent with the generally attested semantic requirement that existential propositions of the "there + be" type refer to non-definite NP's.

However, (44) is not the normal type of Existential-Locative sentence for, although it is well-formed, it is rather more emphatic than the forms in (41), and requires contrastive stress on *yeš* (or *haya*). Hence the next step, of bringing the Copula to the front of the sentence, to yield:

(45) yeš/hayu sfarim baxéder

This is the normal, unmarked way of making an assertion of this kind, where what is being said is that some location or entity whose existence is presupposed contains some unspecified object or objects (compare: 'my tooth has a hole in it' with 'there's a hole in my tooth'). Hence, evidently, the quite general constraint that the entity which is contained, that is, which constitutes the new information – *sfarim* in (44) above – be non-definite.

On the other hand, just in case the Subject NP is [+DEFINITE], the order of elements shown in (44) is the normal one, on condition that in the Present Tense the Subject NP is copied as a suffix on the particle *yeš*, to yield, for example:

(46) a. hasfarim yešnam baxéder
the books are+PRO in the room

b. dan yešno babáyit
Dan is+ PRO at home

c. xaverti yešna bifnim
my girlfriend is+PRO inside

The meaning of such propositions differs from the superficially similar ones noted with respect to (45) above: the existence of both the Subject NP (which must thus be definite) and of the locative entity is presupposed, and what is being asserted is the fact that the former is (was or will be) located in or at the latter at the time of speaking. It is the entire proposition which is being asserted, and hence main stress will generally fall on the pronominal clitic itself – unlike in the case of a locative such as *hasfarim hem baxéder* which is simply telling you where the books are. As in the case of the pronominal copying of Subject NP's in ordinary copula sentences as described in Section 6.3, this pronominalization is constrained in two ways: it is restricted a) to Present Tense contexts and b) to third-person – either *-no* (Masc,Sg), *-na* (Fem, Sg), *-nam* (Masc,Pl), or *-nan* (Fem,Pl); thus such forms as **yešnex* 'you (2nd Fem,Sg)' or **yešnénu* 'we are', while phonologically possible, do not actually occur in the contemporary lexicon of Hebrew. This latter constraint means that like the personal pronouns noted earlier, only the features of Number and Gender, not of Person, are copied.

We can now review the processes noted above in terms of the Definiteness value of the Subject NP. The underlined expressions below are clearly well-formed; the (a) examples are in the Present Tense, (b) in Past Tense; and blanks indicate instances where a rule would apply vacuously:

(47)	[-DEFINITE]	[+DEFINITE]
(i) COP DELETION IN PRESENT		
a.	?sfarim kan	<u>hasfarim kan</u>
b.	?sfarim hayu kan	<u>hasfarim hayu kan</u>

(ii)	*yeš* FORMATION IN PRESENT	
	a. *sfarim yeš kan	*hasfarim yeš kan
	b. –	–
(iii)	COP PREPOSING: OBLIGATORY	BLOCKED
	a. yeš sfarim kan	*yeš hasfarim kan
	b. hayu sfarim kan	*hayu hasfarim kan
(iv)	PRONOMINAL COPYING: BLOCKED	OBLIGATORY
	a. *sfarim yešnam kan	hasfarim yešnam kan
	b. –	–

The chart in (47) shows that if the Subject is [-DEFINITE], the normal kind of "there + be" existential proposition requires Copula Preposing, irrespective of whether in the Present Tense – in which case Copula will show up as *yeš* – or not. If the Subject is [+DEFINITE], two distinct types of propositions may be derived: straightforward locatives, with the stress on the locative element for that is what is being asserted – in which case there may be zero Copula or a personal pronoun suppletive: *hasfarim (hem) kan*; or what we have termed existential locatives, where the existence of a known entity in a known place is being asserted[14] – in which case, too, there may be zero Copula or else *yeš*+PRO: *hasfarim (yešnam) kan.*

What is of interest here is that the distributional facts represented in (47) are crucially dependent on the nature of the proposition, what is being asserted and what presupposed. This is in contradistinction to the situation which we observed with respect to pronominal suppletives in other types of copula sentences as discussed in Section 6.3.1 and 6.3.2 above. Here the criterion is not so much of constituent type (as implied by Hayon 1972) but of proposition type – with the possible exception of the evidently purely stylistic alternation between present tense sentences such as in (47-iii) without a pronominal clitic, *yeš sfarim kan*, and their more colloquial counterpart *yešnam sfarim kan*, both asserting the existence of some unspecified entity *sfarim* in a known location *kan*, as noted by Hayon with respect to the example *yeš/yešnam anašim bamisrad* 'there are people in the office' (Hayon 1972, E-14).

Thus, for instance, the question marks in (47-i) indicate that with the "there + be" type of proposition, some clearly "existential" marker is needed in the form of *yeš* for Hebrew. (Compare the oddness of English 'books are in the room' or French 'un livre est sur la table' with their

preferable counterparts 'there are books ...' and 'il y a un livre ...'.) Other kinds of possible reorderings are not merely stylistic alternations – in the sense of normative compared with colloquial usage, for example, but indicate a shift in focus. Thus the locative element can be highlighted by being brought round to the front of the sentence both with Non-Definite and Definite Subjects as shown in (48) and (49), respectively:

(48) (i) a. KAN (yeš(nam)) sfarim
b. KAN hayu sfarim
(ii) a. baXEder (yeš(no)) sefer tov
in the room (there is) (a)good book

Notice that under such a focusing, *yeš*-formation may but need not apply in the Present Tense, both with and without a pronominal clitic. Where the locative expression is preposed with Definite Subjects, the existential *yeš* cannot occur, and focus is on the Subject rather than on its location, thus:

(49) (i) a. baxéder DAN (vəlo af exad axer)
in the room (is) DAN (and not anyone else)
b. baxéder haya DAN
(ii) a. al hašulxan hasefer šeLI (vəlo šelxa)
on the table (is) MY book (and not yours)

6.4.2 Universal Existentials

Consider the following:

(50) (i) yeš tipšim (baolam)
(there)are fools (in the world)
(ii) yeš cédek
(there)is justice
(iii) yeš (anašim) še maaminim bo
(there)are (people) that believe in him

These sentences – glossed in English by the existential Pro-Subject 'there' – are generic, existential type propositions. In the Past and Future Tense, the copula h–y–y will occur in place of Present-Tense *yeš*. In such cases, Copula Preposing is mandatory, and the copula agrees with the Subject NP in Number and Gender. Thus in the Past Tense (i) would be

hayu tipšim and (ii) would be *haya cédek*. In the Present Tense, the Subject can have a pronominal copy to yield *yešnam* in (i) and *yešno* in (ii).

The example in (iii) represents a special instance of a very general phenomenon of Unspecified NP Deletion. Compare, for example:

(51) (i) a. yeš yəladim še ani ohev
(there)are children that I like
b.*yeš še ani ohev

(ii) a. yeš anašim še maaminim bo
(there)are people that believe in him
b. yeš še maaminim bo

Again, the same expressions could be rendered in the Past as: *hayu yəladim še ani aháyti* (liked) or *hayu (anašim) še heemínu* (believed) *bo*.

Under what seems to be a universal constraint, such Existential propositions are blocked if the Subject is [+DEFINITE]. Thus:

(52) (i) *yeš hatipšim '(there)are the-fools'
(ii) *yeš hacédek '(there)is the-justice

However, if Copula Preposing is not applied, and, on condition that Subject Copying is introduced, such expressions as the following are perfectly well-formed.

(53) (i) habaaya yešna 'the-problem is+PRO = exists'
(ii) dan yešno 'Dan is+ PRO = is present, here'
(iii) haetim yešnam 'the-pens are+PRO = are here, available'

A comparison of these brief comments with the data listed in (47) above reveals the very close connection between Locative and Universal Existentials, for in (50) above we could in each case add the locative-type expression *baolam* 'in-the-world' and in (53) we could add the adverbial *kan* or even *bənimca* 'in-existence' without changing or adding to the meaning at all. In fact, such generic locative expressions are probably present in the deep structure of all existential propositions, even though they may not be manifested on the surface. As noted earlier, the distinction in semantic terms is a question of what is being asserted as compared with what is presupposed. Thus, in *hayéled yešno* 'the-boy is+PRO (present)', the subject's existence in general is being asserted, while in *hayéled baxéder* 'the-boy (is) in-the-room', the subject's existence is

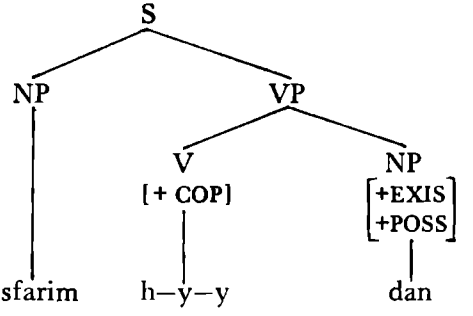
presupposed, while his existence in a certain place (whose existence is likewise presupposed) is being conveyed as new information.

Note, finally, that in the generic type of existentials illustrated in (50), the copula *yeš* or *haya* could be replaced by a full verb with the sense of 'exist' – *kayam* – without affecting their meaning. On the other hand, *dan yešno* in (53) does not mean the same as *dan kayam* 'Dan exists'; rather, like its counterpart with an overt place expression – e.g., *dan yešno babáyit* 'Dan is+PRO at-home' – *yeš, haya* could be paraphrased by a verb such as *nimca* literally 'is-found = is-situated, located'. That is, the expressions in (53) are like their locative counterparts, and the copula here means 'be present, be in this place'; while in those in (50) the copula has the related, but distinct sense of 'be' meaning 'be in existence, be extant, be alive'.[15]

6.4.3 Possessives

With respect to Possessive sentences, an even wider range of surface possibilities is available, all being expressed by a combination of COP+*lə*-, where *lə*- meaning directional 'to' as well as being the marker of Dative and Infinitive, is also the marker of Possession. It seems reasonable to accept the traditional view of Possessives, giving them the same underlying structure as Locatives (as depicted in (42) above), as follows:

(54)



This structure would underlie the derivation of such surface sentences as the following:

(55) (i) a. sfarim yeš lədan
books are to Dan
'Dan has books'

b. sfarim hayu lədan
books were to Dan
'Dan had books'

(ii) by SUBJECT EXTRAPOSING:
yeš lədan sfarim

hayu lədan sfarim

(iii) by COMPLEMENT PREPOSING:
ləˈdan yeš sfarim ləˈdan hayu sfarim

(iv) by COP DELETION IN PRESENT:
ləˈdan sfarim

The facts of usage seem to be as follows: all the versions illustrated above are equally well-formed, but the most normal or "unmarked" form is the one where the Subject alone is extraposed, as in (ii) above, irrespective of whether the Subject NP is Definite or not; thus: *yeš li séfer xadaš* 'I have (a)new book', *haya lo haoz* 'he had the-courage (to do it)', *yeš ləˈdan báyit* 'Dan has (a)house', *yihye ləˈdan habáyit hayafe bəyoter* 'Dan will have the prettiest house', etc.

Type (iv), where there is no overt Copula in the Present Tense, is definitely literary-sounding, and is hardly found in colloquial style – though it is perhaps strange that the most elliptic version is also the most formal. As in the case of Existential Locatives, Copula Preposing is possible where the Subject NP is [-DEFINITE], to yield, say, *yeš sfarim ləˈdan*, but it is blocked if the Subject NP is [+DEFINITE], as in **yeš haséfer ləˈdan* or **hayu hasfarim ləˈdan*, and also if the Complement NP is a Pronoun, as in **yeš séfer li* 'there-is book to-me = I have a book'.[16]

A fairly recent feature of much colloquial, "non-normative" usage indicates that the structure proposed in (54) runs counter to the way Hebrew speakers perceive Possessive sentences: we refer to the widespread occurrence of the Object Marker *et* following Subject Extraposing. Such very common expressions as those in (56) below indicate that speakers view the Possessor as "Subject" and the Possessed as "Object" as is the case in *habere* languages.

(56) yeš ləˈdan *et* haséfer haya ləˈdan *et* haséfer
yeš li *et* hasfarim hayu li *et* hasfarim

This intrusive *et* – much frowned upon by purists – is particularly common in Present Tense sentences with *yeš*, less so in Past or Future Tense sentences with *haya, hayu,* etc. The explanation offered by normativists for this deviance – namely, interference from *habere* languages like Yiddish or English – may, in fact, be correct. Alternately, it may be that NP's following a verb so generally require a preposition in Hebrew, that an over-regularization is incurred following the verbal *yeš, haya.*

6.5 NEGATION OF COPULA SENTENCES

In the previous chapter (see Section 5.2.2) we noted two features of sentence-negation in Hebrew: a) it is most typically formed by attaching the negative marker *lo* immediately before the Main Verb; and b) in Present Tense the special marker *eyn* may be used instead; purists requiring that it must be used in all Present Tense contexts. The special marker *eyn* has two distinct surface properties: it may come at the beginning of a sentence which it negates, unlike *lo*; and where it occurs preverbally, it requires a pronominal copy which agrees with the Subject NP in Person, Number, and Gender to be suffixed to it.

Let us reconsider, first, the case of sentences with non-copula verbs in Present Tense which, as described in Sections 5.5 and 5.6, are derived from a combination of Copula + Verb.

(57) (i) PRESENT TENSE

a. dan lo holex habáyta
Dan not going home
'Dan isn't going home'

b. eyn dan holex habáyta

c. dan eyno holex habáyta

(ii) PAST & FUTURE TENSE

a. dan lo halax habáyta
Dan not went home
'Dan didn't go home'

b.*eyn dan halax habáyta

c.*dan eyno halax habáyta

All three versions of (i) are well-formed, normativists requiring (b) or (c), colloquial usage preferring (a). Just in case *eyn* is used, version (b) is rather more formal and literary in flavor (and more highly valued by purists) than is version (c), where the preverbal *eyn* requires a pronominal enclitic. Note, then, that *lo* cannot simply be replaced by *eyn* to yield, say, **dan eyn holex habáyta*, which is ungrammatical in any style.

The paradigm for attaching a pronominal copy of the Subject NP to *eyn* is as follows:

(58)

	[SING]		[PLUR]	
	[MASC]	[FEM]	[MASC]	[FEM]
1	eyni/eynéni		eynénu	
2	eynxa	eynex	eynxem	eynxen
3	eyno/énu	eyna/éna	eynam	eynan

This chart indicates that the constraint noted with respect to the two other instances of Subject Pronominal Copying in Present-Tense Copula

sentences (the personal pronouns *hu, hi, hem, hen* as discussed in Section 6.3, and the suffixal *-no, -na, -nam, -nan* attaching to the existential particle *yeš* as discussed in Section 6.4) – namely, that only the features of Number and Gender are copied – does not apply in the case of the negator *eyn*: its enclitics manifest the features not only of Number and Gender, but also the value of Person of the Subject NP. On the other hand, the third-person suffixes attaching to *eyn* are morphologically identical to those attaching to *yeš*: *-no, -na, -nam, -nan* – suffixes with an initial *-n* which does not occur in similar fashion anywhere else in the language (except for the first-person plural past morpheme *-nu*).

Below we consider the form of negation in the various kinds of copula constructions considered in the preceding sections of this chapter. A comparison of the facts noted below with the examples in (57) above provide further motivation for the analysis we proposed for *benoni*-form verbs in the preceding chapter – as deriving from VP's containing a copula. Below we illustrate the negation of copula sentences with adjectival and nominal complements:

(59)

(i) PRESENT TENSE	(ii) PAST & FUTURE TENSE
1. a. dan lo rəcini Dan not serious 'Dan isn't serious'	a. dan lo haya rəcini Dan not was serious 'Dan wasn't serious'
b. eyn dan rəcini	b. *eyn dan haya rəcini
c. dan eyno rəcini	c. *dan eyno haya rəcini
2. a. ata lo talmid tov you not student good 'you're not a good student'	a. ata lo tihye talmid tov you not will-be student good 'you won't be a good student'
b. eyn ata talmid tov	b. *eyn ata tihye talmid tov
c. (ata) eynxa talmid tov	c. *(ata) eynxa tihye talmid tov

The picture which emerges is identical to the one noted for ordinary *benoni* sentences in (59) above: in (i), type (a), with *lo*, represents normal colloquial usage, while types (b) and (c) are preferred in formal style – with *eyn* either preceding the Subect or the Complement, in the latter case requiring a pronominal suffix; in (ii), the ordinary type of negation with *lo* being inserted immediately before the verb – in this case the copula *haya* or *tihye* – is required.

A further distinction needs to be noted here, relating to the criterion considered in preceding sections: the Definiteness of the Subject NP. In the examples in (59) above, the Subject NP is [+DEFINITE] in each case, being the Proper Noun *dan* or the Pronoun *ata*, and the same examples could have been used with a definite noun such as *hayəladim* 'the-children' or *xaveri* 'my-friend'. Compare, however, the following:

(60)	(i) PRESENT TENSE	(ii) PAST & FUTURE TENSE
1. a.	eyn yəladim rəciniyim (there are)no serious children	a. lo hayu yəladim rəciniyim
b.	yəladim eynam rəciniyim	b. yəladim lo hayu rəciniyim
2. a.	eyn sé́fer káze not book like-that 'there is no such book'	a. lo haya sé́fer kaze not was book like-that 'there never was such a book'
b.	*sé́fer eyno kaze	b. *sé́fer lo haya kaze

We can interpret these data as follows: if the Subject NP is non-Definite and the negator is sentence-initial, as in 1-a, what is yielded is an Existential proposition of the type 'there are/were no ... (in existence)'. In fact, this is the general way to express Existential prepositions in Hebrew, whether negative or not. Thus the affirmative counterparts of 1-a above are — as noted in an earlier section — *yeš/hayu yəladim rəciniyim* 'there are/were serious children (in existence)'.

The sentences in 1-b above have a different interpretation, the non-Definite Subject being Generic in intention. Again, it makes no difference whether the sentence is negative or not: *yəladim hem/eynam rəciniyim* meaning 'children (in general) are/are-not serious'; and similarly *yəladim (lo) hayu rəciniyim* 'children (never) used-to-be serious (in general)'. We might add that the well-formedness of (61-c) below provides further proof that the pronominal copy — in this case *hem* — which, as noted in Section 6.3.1, is obligatory in such sentences, cannot be viewed as deriving from a process of topicalization. Thus

(61)				
a.	yəladim children(in general)	hem they (are)	rəciniyim serious
b.	yəladim children in general	eynam (are)not+PRO	rəciniyim serious
c.	yəladim hem eynam rəciniyim		
d.	yəladim hem lo rəciniyim		

The occurrence of two copula markers in (61-c) indicates clearly that the pronominal copy *hem* is introduced for purposes of emphatic focusing or topicalization in (c) but **not** in (a). And the occurrence of *hem* but never of *yeš* in (a) and the alternation of *eyn* with *lo* in (c) and (d) indicates that these are "nominal" type sentences (Section 6.2) rather than existential.

Consider now sentences of the type illustrated in (60-2) above: the sentences in 2-a have the same Existential import as do those of 1-a, where the Subject NP is non-definite; and again, they may but need not be negative: *yeš/eyn séfer kaze* 'there is/is not such a book'. However, if the Subject NP cannot be interpreted as Generic, as in the examples in 2-b, the sentence is not well-formed; compare *hahistóriya hi/eyna məanyénet* 'the-history=history in general is/is-not interesting' with the asterisked expressions in 2-b.

As is to be expected from what was noted in Section 6.4. above, Copula Preposing is obligatory with [-DEFINITE] Subjects, but must be blocked with [+DEFINITE] Subjects. In each case, the particle *yeš* will be replaced by *eyn*, and where the former has a pronominal suffix, so will the latter; and in each case the past tense *haya* or future tense *yihye* will be preceded by the negative marker *lo*, as shown below:

(62) LOCATIVE NEGATION

(i) a.	eyn sfarim baxéder	dan eyno baxéder
	(there are)no books in the room	Dan (is)not+PRO in the room
b.	*lo sfarim baxéder	dan lo baxéder
c.	lo hayu sfarim baxéder	dan lo haya baxéder
(ii) a.	eyn yalda kan	hayalda eynéna kan
	(there is)no girl here	the girl (is)not+PRO here
b.	*lo yalda kan	hayalda lo kan
c.	lo hayta yalda kan	hayalda lo hayta kan

The (a) and (c) examples above illustrate what was noted previously: with non-definite subjects, the negator must come at the beginning of an Existential Locative sentence, whereas with definite subjects, the negator comes in the ordinary preverbal position and, if it is *eyn*, the normal negative marker *lo* can be used – in colloquial style at all events – in place of the more formal *eyn*+Pro. This again confirms the distinction

made in the previous section between two types of sentences which might seem superficially identical: i) Existential-type Locatives where, in the present tense, zero alternates with *yeš*, obligatorily negated by *eyn*; and ii) Place-asserting Locatives which are like the Attributive kind of "Nominal Sentence" (see Section 6.2) where, in the present tense, zero alternates with a personal pronoun, and which may be negated by *lo*.

A similar picture emerges with respect to the negation of Possessive sentences, with two exceptions: a) the feature of Definiteness of the Subject NP (the "possessed") is irrelevant; and b) *lo* can never be used to negative present-tense Possessives.

(63) POSSESSIVE NEGATION

(i) a. eyn lədan (ha)sfarim
not to Dan (the)books
'Dan doesn't have (the) books'

b. *lo lədan (ha)sfarim

c. lo hayu lədan (ha)sfarim

(ii) a. lədan eyn (ha)sfarim

b. *lədan lo (ha)sfarim

c. lədan lo hayu (ha)sfarim

In sum, then, we see that while in the one class of copula sentences – Attributive, Specificational, and Identifying, as discussed in Sections 6.2 and 6.3 above – either *eyn* or *lo* may be used in present-tense contexts, just in case the sentence can have *yeš* as the present-tense copula – that is, if it is Existential (Universal or Locative) or Possessive, as discussed in Section 6.4 above – the form *eyn* is mandatory as its negative counterpart. That is, there is no **lo cédek*, **lo sfarim baxéder*, or **lo lədan sfarim* in the sense of 'there is no justice', 'there aren't any books in the room', 'Dan hasn't any books'. What seems to be happening then is that today *eyn* is viewed as the negative counterpart of *yeš*, with *lo* being used in all other contexts, present tense or not, copula construction or not. And the distinction between Attributive Locatives and Existential Locatives is clearly manifested by the possibility of *lo* as a negator of the former but not of the latter.

6.6 SUMMARY

In this chapter we considered two main classes of copula sentences occurring in Modern Hebrew (and, possibly, universal) grammar: (i) sentences with the function of Attribution, Specification, or Identification; and (ii) sentences expressing Existence (Universal or Locative) and Possession. All share the surface property of having some form of the copula verb h–y–y in any context but the Present Tense. Set (i) is associated with the traditional notion of "Nominal Sentence" in Hebrew grammars, in the sense that in the Present Tense they may contain no overt verb-form. We show how this zero manifestation of h–y–y alternates in certain fairly regular ways with suppletive morphemes taken from the set of personal pronouns – *hu, hi*, etc. – as well as with the demonstratives, most particularly *ze* 'it, this'. Set (ii) represents a semantically and syntactically related class of propositions in languages in general; in Hebrew these all manifest the existential particle *yeš* and its negative counterpart *eyn* in the Present Tense; and *yeš*, too, can quite regularly alternate with zero in Existential Locatives and in Possessives. Though *yeš* manifests a number of clearly verbal properties (as shown, for instance, in Ariel 1972b and in Berman & Grosu 1976), the surface form of sentences with *yeš* quite generally differs from the normal SVO surface ordering of constituents in Hebrew sentences.

The occurrence of a pronominal copy of the Subject NP – with which it shares the features of Number and Gender (and, in the case of the negator *eyn*, Person as well) – is peculiar to present-tense copula sentences of all the kinds noted above, either as a suppletor of zero in set (i) above or as a suffixal enclitic on *yeš* and *eyn* in set (ii) above; and it is just in these contexts that this pronominal copy of the Subject NP fails to have any emphatic or topicalizing effect, as discussed in Section 6.3.2.

Finally, the surface form of copula sentences is in various cases determined quite crucially by the definiteness value of the Subject NP. For instance, a pronominal suppletor may alternate with zero in present-tense copula sentences just in case the Subject NP is either Definite or Generic; the position of the particle *yeš* and its negative counterpart *eyn* in Existentials and Locatives will similarly depend on whether the Subject NP is Definite or not, that is, on whether the topic of the proposition is taken as known or as unspecified.

NOTES

[1] In his textbook on syntax, Blau defines the notion as follows: "A sentence whose predicate is not a specific verb is not a verbal sentence. As in many of the non-verbal sentences a noun functions as predicate, such sentences are called 'nominal sentences'." He then adds a footnote to the following effect: "A common error is to analyze such sentences as *hayéled baxéder* 'the-boy in-the-room' (all glosses are by R.B.) or *hayéled šam* 'the-boy there' as if the word *nimca* 'be-found, be-located' had been omitted from them, and to analyze them along the lines of *hayéled nimca baxéder* 'the-boy is-located in-the-room', *hayéled nimca šam* 'the-boy is-located there', as though *nimca* is (the head of) the predicate is not a specific verb is not a verbal sentence. Since in many of the structure of languages such as English to Hebrew. In English, for example (almost) every sentence must contain a specific verb, and a sentence such as *hayéled baxéder* must be translated as 'the child is in the room', where the specific verb 'is' functions as (the head of) the predicate. In Hebrew, on the other hand, (as in many languages, Semitic and non-Semitic), there is no need at all for the sentence to contain a verb. Just as one would not conceive of supplementing a sentence such as *hayéled gadol* 'the-boy (is) big' by some verb or other, so there is no need to add a verb to a sentence such as *hayéled baxéder*. This sentence is not a contraction of a broader sentence such as *hayéled nimca baxéder*...but it is an ordinary sentence with a structure very common in Hebrew, and it must be analyzed in terms of the parts occurring in it, and not by some kind of supplementing. This conception of such sentences is also of great importance for the way copulas (i.e., the pronominal suppletors of zero in the present-tense, R.B.) are conceived" (Blau 1966, 17).

[2] Note that a specificational-type sentence such as the one illustrated in (4-iii) may contain a pronominal form of the copula even when it has a past or future tense interpretation. Thus alongside of

(i)	ma	še	racínu	haya	še	taazor	lánu
	what	(that)	we wanted	was	that	you will help	us
(ii)	ma	še	nirce	yihye	še	taazor	lánu
	what	(that)	we will want	will be	that	you will help	us

we can also have:

(iii) ma še racínu hu/ze še taazor lánu

(iv) ma še nirce hu/ze še taazor lánu

[3] Given a surface predicate of the form VP[V + X] where X stands for the complement of the main verb, it may include such constructions as the following in Hebrew:

a. X = ∅: "true intransitives'
e.g., *pihek* 'yawn', *neelam* 'disappear', *hitbatel* 'loaf, laze'

b. X = NP: = ACCUS "true transitives"
šama ráaš 'hear (a)noise', *histir et hasod* 'hide OM the-secret'
= GOV_X "oblique objects"
baat bədan 'kick at-Dan', *hiskim im dan* 'agree with Dan'

c. X = NP NP: "datives"
natan matana lərina 'give (a)gift to-Rina',
kana matana lərina 'buy (a)gift for-Rina'
"locatives"
sam et haséfer al hakise 'put OM the-book on the-chair'

d. X = S = "infinitival"
nisa laazor lánu 'try to-help us',
bikeš midan laazor lanu 'ask of Dan to-help us'

e. X = S = "še- Clause"
kiva še dan yaazor lánu 'hope that Dan will-help us',
bikeš midan še yaazor lánu 'ask of-Dan that (he)will-help us'

[4] In this connection, see Hayon 1969, Chap 3, pp. 83-91 for Hebrew. His proposal for introducing the copula transformationally follows the analysis proposed by Bach (1967) with respect to 'have' and 'be' in English (and other languages); a similar view is adopted by Jacobs and Rosenbaum (1968, Chaps. 13, 14) in their analysis of the copula in English.

A possible formal argument against introducing 'be' transformationally for languages such as Hebrew is the circularity of first inserting and then deleting (in present-tense contexts) the copula morpheme. However, the same facts could be accounted for by rules such as the following: zero would take some form of h–y–y in environment X, just in case X does not have the feature of [+PRESENT TENSE]. This would then be followed by a set of rules specifying the conditions under which various suppletive forms – including the pronominals discussed in Section 6.3.1 and the existential particle *yeš* – may occur in present-tense environments.

[5] It is hard to establish precisely what the term *oged* (which, incidentally, is not listed at all in the major monolingual dictionary of contemporary Hebrew, Even-Šhoshan 1968, Vol. 1) is meant to refer to in Hebrew grammars – whether only to the pronominal suppletor in "nominal sentences" or to the copula, including the various manifestations of h–y–y, in general. Gesenius does not use the term at all, but discussed both pronominal and verbal (from the root h–y–y) "linkers" of Subject and Predicate in the same context, under the single label of "copula" (1910, 453-54); Rubinstein discusses the notion at length and provides detailed cross-references to how the subject has been treated by Hebrew grammarians at different times, he himself confining the use of the term *oged* to the pronominal suppletor as distinct from "the verb *haya*" (1968, 52-53, 116-120, 218-219).

[6] Hayon discusses this dimension in some detail in his dissertation (1969, pp. 74 ff.) and he sums up his findings with the following chart (3.7, p. 80):

	Subject	Predicate	Copula
(i)	[+Def]	[+Def]	+
(ii)	[+Def]	[-Def]	-
(iii)	[-Def]	[+Def]	+
(iv)	[-Def]	[-Def]	+
(v)	[+Def]	Adjective	-
(vi)	[-Def]	Adjective	+

However, Hayon's analysis fails to characterize the special nature of Generic expressions, which may but need not be marked as definite in either singular or plural. Hayon further discusses the obligatory status of these pronominal forms in certain types of relative clauses, and in this connection he provides valuable data, particularly with respect to the requirement of a pronominal copy in non-restrictive appositives compared with restrictive relative clauses (pp. 94-102). However, we cannot accept the distinction he draws between the obligatory occurrence of a pronominal copy in non-restrictive relative clauses and in other types of copula contexts, leading him to propose a different derivation for *hen* 'they (Fem)' in, for instance, *naŠim hen armumiyot* 'women are cunning' and in the appositive relative clause of *hanaŠim, Še hen armumiyot, gormot carot* 'the-(Generic)-women, who (are) cunning, cause troubles'. (For further criticism of Hayon's analysis, see Grosu 1975b.)

[7]The distinction between Generic NP's with and without the definite marker *ha-* requires further investigation – both in terms of distribution and of meaning. At this point, it seems to us that where the Subject NP occurs without *ha-* (as in the examples in (10-b) in the text), the sense is more generic than those with *ha-*. Thus:

(i) a. yéled hu yicur muzar
(a)boy (is) (a)strange creature
=kol yéled hu yicur muzar
every boy (is) (a)strange creature

b. hayéled hu yicur muzar
the boy (is) (a)strange creature
=bəderex klal hayéled hu yicur muzar
as a rule (or by and large) the(=a)boy (is) (a)strange creature

(ii) a. pilim holxim ləat
elephants walk slowly
=kol hapilim holxim ləat
all elephants walk slowly

b. hapilim holxim ləat
the elephants walk slowly
=bəderex klal hapilim holxim ləat
as a rule (the)elephants walk slowly

I am grateful to Ms. Ziva Rashish for providing me with data in this connection. As noted, the entire nature of generic NP's – mentioned briefly in another

context in Section 5.3.3, example (11) – warrants deeper analysis than has been provided as yet.

[8] There is quite a general tendency in colloquial speech – frowned upon by normativists – to actually use the verb *hiva* in the sense of 'be=constitute' in such contexts as:

(i) gišato lainyan məhava baaya rəcinit
his approach to the matter is=constitutes (a)serious problem

(ii) rəcono lixyot bəšalom hiva gorem xašuv
his wish to live in peace was=constituted (an)important factor
bəvituro
in his surrender

The claim of the normativists is that this usage is influenced by foreign languages such as English, and that in fact *hiva* should be restricted to contexts requiring a verb with the sense of 'constitute=compose, construct, comprise', etc. Yet the fact that it is used as such in ordinary speech and even in newspaper style indicates that the verb is viewed as quite distinct from the pronominal form under consideration here.

[9] Note, too, that the pronominal forms *hu*, etc., are optional only where "be" is a two-place predicate, as in *hayéled (hu) tipeš* 'the-boy is a-fool'; some overt verb such as *hove* or *kayam* 'exist' is obligatory in one-place existential sentences, for 'the Lord exists' cannot be rendered by **hael ∅*. What sets existential propositions apart from all the other types of copula constructions is precisely the fact that they are one-place predicates. For further discussion, see comments on Universal Existential copula constructions in Section 6.4.2.

[10] Thus the following was said by a radio correspondent on a weekly newscast on the Israeli Broadcasting Services, 26.1.1974:

nifgašim uməsoxaxim al hamilxama še hayta, al hamacor
(they)meet and talk about the war that was, about the siege
še hove, veal heatid lavo
that is, and about the future (=what is) to come

[11] This relationship is noted, for instance, by Bach (1967), in Lyons 1967, and in Lees 1972 in relation to different languages. With respect to this relationship in Hebrew, see Hayon 1972; Ariel also provides numerous illuminating examples to substantiate his claim that *yeš* is the present-tense form of h–y–y (1972-b).

[12] Consider, however, just this one set of paraphrases:

FRENCH: un livre *est* sur la table
= il y *a* un livre sur la table
ENGLISH: there *is* a book on the table
= the table *has* a book on it

[13] Lees has pointed out that Turkish, too, has a special existential particle *var*, which alternates with the normal copula form in Locatives and Possessives, and which has a negative counterpart *yok* (1972). Hungarian likewise has a zero copula in Present Tense sentences of the Hebrew "nominal sentence" type and an existential particle elsewhere (Shlomo Sade, personal communication). These are cases which correspond to the special Hebrew particle *yeš* and its negative counterpart *eyn*. This particle *yeš* has ancient Semitic origins, relating evidently to the Assyrian root y–s–y as attested to by the entry for this item in the Ben Yehuda dictionary (Ben Yehuda 1948, 2160).

[14] Propositions of this kind are akin to the situation of "neutral description" as characterized by Kuno (1972).

[15] Thus, it is only under the Locative interpretation that the verb *nimca* 'be-found, be-located' could be substituted for the copula – a point which is not made explicit in Blau's comments, as cited in footnote 1 above. Hence the following possibilities of paraphrase:

(i) UNIVERSAL-EXISTENTIAL	(ii) LOCATIVE-EXISTENTIAL
yeš tipšim (baolam)	hasefer yešno kan
(there)are fools (in the world)	the book is+PRO here
=kayamim tipšim (baolam)	=hasefer nimca kan

[16] This latter constraint is in keeping with the very general tendency in Hebrew to always prepose pronominals in a string of complements, thus: *hu natan la et hasefer* 'he gave to-her OM the-book' compared with *hu natan oto layalda* 'he gave it to-the-girl'. This may not be a language-specific property, but rather a performance constraint in terms of surface length of formatives, pronouns generally being shorter than full words. The importance of number of syllables in terms of closeness to the verb in Hebrew is further evidenced by the occurrence of *hu natan li oto* 'he gave to-me it' but not **hu natan oto li.* (See also fn. 10 to Chapter Nine in this respect.)

7 CONSTRUCT STATE GENITIVES

7.1 THREE SURFACE FORMS OF *SMIXUT*

This chapter is concerned with the type of construction known in Hebrew Grammar as *smixut* (from the adjective *samux* 'adjacent'), often termed "the construct state" in English. We refer to expressions which arise out of the surface-structure adjacency of two nouns (in fact, as we shall see, of two nominal elements) with no intervening element – such as a preposition or conjunction – between them. Included under this heading is the process of "noun compounding," which in Hebrew takes the form of *smixut* – a phenomenon which has been accorded relatively detailed attention in contemporary studies of Hebrew,[1] but the notion is in fact used to apply to all forms of the category of Genitive. As such, *smixut* constructions manifest the full range of possible internominal relations as described in detail for English by Lees (1960) – for instance, the Hebrew versions of such expressions as 'orange trees', 'matchbox', 'writing table', 'baking powder', 'John's driving', 'John's decision' – as well as the relationship of possession, both alienable, as in 'a farmer's cow', and inalienable, as in 'John's foot'.

The term *smixut* is generally restricted to constructions in which the head element – known as the *nismax* ('supported', 'upheld') – directly precedes the modifying adjunct – known as *somex* ('supporter', 'upholder'). In fact, however, genitive relations can quite generally take three possible surface forms, both the "bound" form noted above and two other forms in which the genitive particle *šel* 'of' is overtly manifested.

These three surface forms are illustrated below, where N_x stands for the head N (*para(t)* 'cow' or *mnahel* 'director'), N_y stands for the adjunct (*ikar*

'farmer' or *misrad* 'office') and the symbol — is used to denote the connection of "bound" *smixut*.

(1) (i) "Bound" = *xavur:* $\boxed{N_x \; N_y}$

a. parat ikar
cow-of farmer = '(a) farmer's cow'

b. mnahel hamisrad
director-of the-office = 'the director of the office'

(ii) "Separate" = *parud:* $\boxed{N_x \; \check{s}el \; N_y}$

a. para *šel* ikar
cow of farmer = 'a farmer's cow'

b. hamnahel šel hamisrad
the director of the office

(iii) "Double" = *kaful:* $\boxed{N_x \; PRO\text{-}N_y \; \check{s}el \; N_y}$

a. parato šel ikar
cow his of farmer = 'a farmer's cow'

b. mnahalo šel hamisrad
director its of the office = 'the director of the office'

The first question we shall address ourselves to here is of the relationship between these three types of *smixut* constructions. We note first that only the "bound" form (i) does not manifest the genitive particle *šel*, and that form (i) alone may involve certain morphophonemic alternations in the form of the head noun N_x — changes we consider later in this chapter; the "separate" form (ii) seems to be the most straightforward, consisting simply of the two N's associated by the genitive particle *šel*; while the "double" form (iii) manifests a redundancy in the form of the obligatory pronominalization of the adjunct N_y enclitically suffixed to the head N_x and followed by the genitive particle *šel*.[2]

Our claim is that these three alternate forms are essentially synonymous, and that the choice between them is a stylistic matter alone, with certain important exceptions, considered in the next section of this chapter. Some scholars have attempted to establish structural critiera for the preference of one over the other, such as the claim that forms with *šel* are preferred when the adjunct is [+HUMAN] and the bound form elsewhere. (See, for instance, Rosen 1966, 149-160; and Ornan 1968b.)[3] It seems to us, however, that the alternation between these three forms is not restricted along the same lines as in a language such as English where, generally

speaking, the apostrophe 's' form is preferred where the possessor or adjunct noun is human, and the use of 'of' elsewhere (compare: 'the dancer's legs' / 'the legs of the table'). Rather, in ordinary colloquial usage, the separate and double forms (ii) and (iii) are preferred over the more formal bound form – both in expressing the relation of possession (e.g., *parat ikar* in (1) above) and in expressing other relations (illustrated by *mnahel misrad* in (1) and by the further examples below):

(2) (i) a. bniyat batim
building-of houses

b. bniya šel batim
building of houses

c. bniyatam šel batim
building their of houses

} 'the building of houses'

(ii) a. xumrat hamacav
severity-of the-situation

b. haxumra šel hamacav
the severity of the situation

c. xumrato šel hamacav
severity its of the situation

} 'the severity of the situation'

Some observers have claimed that this generalization does not hold with respect to kinship terms, with which even normal colloquial usage prefers the bound form, particularly when the adjunct (the "possessor") is a personal pronoun. However, I have noticed that most teenage informants invariably prefer the forms with the genitive particle in such cases, too. That is, they render 'my brother' as *haax šeli* rather than as *axi*; 'his mother' as *haima šelo* (literally, 'the-mother of-his') rather than as *imo*; 'her parents' as *hahorim šela* and not as *horéha*; and 'your (Fem, Sg) daughter' as *habat šelax* and not as *bitex*. These usages provide further support for the claim made earlier in this work in considering pronominal inflections on nouns (Section 3.1.2): the enclitically attached "bound" pronominal adjunct is rarely found in normal colloquial usage today – though it is part of the recognition knowledge of any adult speaker. This same phenomenon is noted by Bar-Adon, who points out that ". . . the (possessive) declension of the noun has been in decline in general, 'informal' speech, and has almost disappeared . . . from the speech of the younger generation" (1964, 759).

It should be noted that we are making an even stronger claim here: irrespective of whether the adjunct is a full noun or a pronominal, everyday

colloquial Hebrew usage will today prefer one of the two forms that use the genitive particle *šel*, and the bound form with no particle will be confined to more formal, literary style, with certain quite limited exceptions, where the bound form is required.

7.2 NOMINALS RESTRICTED TO THE BOUND FORM

We shall consider two main instances where the older bound form is still mandatory: firstly, the case of fixed and hence "inseparable" Noun Compounds analogous to English 'ashtray', 'notebook', 'postman', 'hair-dryer', etc.; and secondly, compounds containing words which belong to various grammatical categories that we have described as "quasi-nominal," in the sense that they manifest certain but not all the properties of ordinary or full nouns.

7.2.1. Idiomatic Noun Compounds

As has been noted in the literature (see fn. 1 to this chapter), where the construction in question constitutes a set phrase in the sense of a fixed Noun Compound, the bound form alone will be used. On the other hand, all three forms are always possible in all but **not only** cases where the relationship is one of possession, alienable or inalienable alike. Below we constrast set Noun Compounds with corresponding possessives (3-i) and with genitive constructions expressing a non-possessive relationship (3-ii):

(3)		FIXED COMPOUNDS	SEPARABLE COMPOUNDS
(i)	a.	bet sefer	bet rina
		house-of book	house-of Rina
		'school'	'Rina's house'
	b.	*báyit šel séfer	habáyit šel rina
	c.	*beyto šel séfer	beyta šel rina
(ii)	a.	mxonot ktiva	mxonot hamifal
		machines-of writing	machines-of the-factory
		'typewriters'	'the factory's machines'
	b.	*mxonot šel ktiva	hamxonot šel hamifal
	c.	*mxonotéha šel ktiva	mxonotav šel hamifal

(iii)	a.	orex̄ din	orex̄ iton
		arranger-of law	editor-of newspaper
		'lawyer'	'a newspaper editor'
	b.	*orex šel din	orex šel iton
	c.	*orxo šel din	orxo šel iton
(iv)	a.	šiurey̅ hístórya	šiurey̅ hamora
		lessons-of history	lessons-of the-teacher
		'history lessons'	'lessons given or taken by the teacher'
	b.	*šiurim šel hístórya	hašiurim šel hamora
	c.	*šiuréha šel hístórya	šiuréha šel hamora

The precise characterization of the expressions belonging in the left-hand column of (3) – i.e., those which must be characterized as inseparable or "true" Compound Nouns – is not a simple matter, as it seems to be a lexical question of conventional usage rather than of the specific semantic or syntactic relations obtaining between the two nominals in each case. We would suggest that these compounds need to be viewed essentially as "idioms" in the sense in which this notion has been treated by contemporary semanticists (see, for example, Chafe 1970, 45-49). Thus, for instance, in the case of these "inseparables," both the initial head N and the following adjunct must be unitary N's, and not NP's. That is, only the compound as a whole can be modified, not either or both of its constituent parts. Thus, with reference to the examples in the left-hand column of (2): *bet séfer tov* 'house-of book good = (a) good school'; *orex din turki* 'arranger-of law Turkish = (a) lawyer who is Turkish' and **not** 'one who deals in Turkish law'; while *šiurey hístórya zot* 'lessons history this' (where *zot* agrees with the feminine singular adjunct *hístórya* and not with the masculine plural head noun) might be possible if interpreted as 'lessons in this (particular) history' – in which case, the compound nominal is treated as a case of separable *smixut* rather than as a bound form. Those expressions which are separable can, however, be expanded by modification of the adjunct N, as illustrated for the examples in the right-hand column of (3):

(4) bet [rina haktana] = 'little Rina's house'
house-of Rina the-small
orex [iton bóker]
editor-of paper-of morning = 'morning paper's editor'
mxonot [hamifal haze]
machines-of the-factory the-this = 'this factory's machines'
šiurey [hamora ləhistorya]
lessons-of the-teacher for-history = 'the history teacher's lessons'

We consider the distinction between modification of the head and the adjunct N's, respectively, later in this chapter.

Regarding the question of the special properties of "inseparable" or "idiomatic" compounds, we have been unable to establish any general, motivated reason for this type of "inseparability" for, as noted, an equally wide range of relations can be expressed by the separable type of *smixut* construction, too. As is the case with all idioms, the constraint is a purely lexical one, in the sense that part of the idiosyncratic information a speaker has about the vocabulary of his language includes a listing of all and only those Noun Compounds which are essentially fixed or inseparable in Hebrew.

Certain nouns seem particularly productive in constituting the heads of a wide range of compounds. Thus, for instance, *bet* – the bound form of *báyit* 'house, home, building' – is used in forming such compounds as: *bet séfer* 'house-of book = school', *bet xolim* 'house-of sick (ones) = hospital', *bet xaróšet* 'house-of industry = factory', *bet din* 'house-of law = court', *bet avot* 'house-of fathers = old-aged home', *bet bóšet* 'house-of shame = brothel', *bet knéset* 'house-of assembly = synagogue' and many more types of "institutions"; similarly, *kəev* 'pain, ache' may be followed by an adjunct standing for any part of the body to form compounds meaning 'headache, toothache, earache, stomach ache', etc.; *báal* 'master, husband, owner' is used to form expressions with such meanings as: 'landlord, estate owner, innkeeper, vertebrate' (*báal xulyot* meaning literally 'owner-of vertebrae') and many more with the sense of 'one having (a certain quality or disposition)'; and a similarly productive head noun is *ben* – literally 'son, child' – in such compounds as: *ben adam* 'son-of Adam = person', *ben X šanim* 'son-of X years = X years old', *ben X komot* 'son-of X floors = X floors high', *ben mino* 'son-of his-kind = of the same kind of species', *ben gilo* 'son-of his-age = of the same age', *ben zmano* 'son-of his-time = of the same time, contemporary', etc. Finally, one might note the occurrence of the relatively new word *mxona*

'machine', which, like the Biblical forms noted above, is susceptible to *smixut*-compounding yielding such expressions as: 'washing machine', 'sewing machine', 'writing machine = typewriter', 'shaving machine = razor, shaver', 'shooting machine = machine gun', etc.

7.2.2. Quasi-Nominal Forms in Construct State

There is one group of cases where the characterization of invariably "bound" nominal heads can be accounted for in a rather more motivated way than noted above. In an investigation of various types of nominalization in Hebrew (Berman 1973, Chapter 4), it was found that a major criterion of "nominalness" was the ability of a given item to participate in a *smixut* construction of one kind or another. It transpired that all and only "true" nouns – that is, lexical items coming under the major category heading of N – could constitute both the head and the adjunct element in all three types of *smixut*. On the other hand, it is well-known that in Hebrew various other kinds of elements can function in *smixut* constructions, most specifically in the bound form. Apart from "primitive" or non-derived nouns – such as *para* 'cow', *ikar* 'farmer', *báyit* 'house', *mxona* 'machine', *šiur* 'lesson' – several kinds of elements can enter *smixut* relations, under quite special constraints. Below we consider the following: Adjectives, *benoni* (Present-Tense or Participal forms), Gerunds, V-Noms (Verb-derived Abstract Nominals), and A-Noms (Adjective-derived Abstract Nominals).

a. Adjectives

One property which favors the traditional view of Adjectives in Hebrew as essentially Noun-like (in line with the classical notion of "substantive" applying to both nouns and adjectives in Hebrew as in Greek) is their ability to take the bound form of *smixut*. Thus:

(5) naara arukat ragláyim
girl long-of legs = 'a long-legged girl'
baxurim adumey panim
fellows red-of face = 'red-faced fellows'
iš gva koma
man high-of stature = 'a tall(-statured) man'
iša yafat mare
woman beautiful-of look = 'a beautiful-looking woman'

True, such expressions are rather literary-sounding, but they do form part of at least the recognition knowledge of the ordinary Hebrew speaker, and they are quite productive, and as such merit inclusion in the grammar.

Moreover, some, though by no means all, N + N *smixut* constructions have corresponding N + Adj constructions, where the adjunct N and the Adjective bear a similar relationship to the initial, head N. Thus:

(6)	cimxey midbar	cmaxim midbariyim
	plants-of desert	plants deserty
	'desert plants'	'desert-type plants'
	tiyul láyla	tiyul leyli
	outing-of night	outing night-type
	'an outing by night'	'an outing by night'
	avodat misrad	avoda misradit
	work-of office	work office-type
	'office work'	'office work'
	hodaat hamištara	hodaa mištartit
	announcement-of the-police	announcement police-y
	'a police announcement'	'a police announcement'

In another context (Berman 1972), we attempted to establish to what extent this alternation is productive (i.e., where denominative adjectives will occur in Hebrew), what differences in meaning are expressed by use of an adjective rather than a noun as adjunct, and how the constraints on adjective-noun alternations might be characterized in terms of types of adjunct relations. (See also Levi 1976a,b in this connection). Here it is enough to note that this correspondence does exist and that, together with the phenomenon illustrated in (5) above, it provides motivation for assigning a nominal feature to all Adjectives to indicate that, under given constraints, they are potentially able to enter into a bound type of *smixut* construction and into it alone, whether as head or as adjunct element thereof.

b. *benoni* **Forms**

In Chapter Five we noted that verbs in the *benoni* (present-tense or participial) form manifest certain nominal properties, including the ability to function as the head of a bound *smixut* (see Section 5.2.5). In Chapter

Eleven, we consider the peculiar problems raised by the fact that all *benoni*-form verbs are theoretically conceivable as nouns (Agent Nouns if [+HUMAN], Instrument Nouns if not), but that only a small subset of all *benoni* forms do in fact function in this way. An interesting point arises in this connection which, to the best of our knowledge, has not been noted in the literature: if and only if the form in question has attained the status of an independent or "full" Noun in the language will it enter into all three types of *smixut*, both as head and as adjunct. On the other hand, all *benoni* forms can occur as the head of a bound *smixut* construction, but only as such. This set of facts is illustrated below, where in each case the head noun is a *benoni* form:

(7)	N_x = INDEPENDENT NOUN	N_x = *BENONI* PARTICIPIAL
(i) a.	mnahel misrad manager-of office 'an office manager'	a. msader baayot settler-of problems 'a problem-settler'
b.	mnahel šel misrad	b. *msader šel baayot
c.	mnahalo šel misrad	c. *msadran šel baayot
(ii) a.	poaley hamifalim workers-of the-factories 'the factories' workers'	a. noaley hasandalim wearers-of the-sandals 'the sandal wearers'
b.	hapoalim šel hamifalim	b. *hanoalim šel hasandalim
c.	poaleyhem šel hamifalim	c. *noaleyhem šel hasandalim

Again, this set of facts warrants the assignation of a nominal feature to all *benoni* forms, setting them apart from their past and future counterparts (for reasons and with implications considered separately in Sections 5.2 and 5.6). Only a given subset of *benoni* forms can, however, be assigned to the major lexical category of N, as independent full nouns – a major criterion in this case being their ability to form the head of all three types of *smixut* construction.

Moreover, only the latter subset of *benoni* forms can freely constitute the **adjunct** element of a genitive, as shown below:

(8)	N_y = INDEPENDENT NOUN	N_y = *BENONI* PARTICIPIAL
(i)	a. misrad hamnahel office-of the-director 'the director's office'	a. *baayot hamsader problems-of the-settler 'the settler's problems'
	b. hamisrad šel hamnahel	b. *habaayot šel hamsader
	c. misrado šel hamnahel	c. *baayotav šel hamsader
(ii)	a. mifal hapoalim factory-of the-workers 'the workers' factory'	a. *sandaley hanoalim sandals-of the-wearers 'the wearers' sandals'
	b. hamifal šel hapoalim	b. *hasandalim šel hanoalim
	c. mifalam šel hapoalim	c. *sandaleyhem šel hanoalim

A distinct type of bound construction, then, is the one in which the head is a *benoni* form which does not function as an independent (hence "non-bound" or "free") Agent or Instrument noun in current Hebrew, but one which retains its more verbal, participial status.

c. **Gerunds**

The question of whether the gerund in Modern Hebrew can be said to participate in *smixut* constructions is of particular interest; for gerunds are unique forms in the sense that they are generally followed by a nominal – the deep-structure Subject of the verb from which they are derived. In Chapter Nine, we give arguments to show that gerunds are not, however, invariably bound forms, in that a pronominal oblique object may come between the gerund and its underlying Agent NP (see Section 9.2.1, particularly fn. 10).

If we consider only the type of gerund which we elsewhere define as the "nominal gerund" (see Section 9.2.3), it transpires that this form may function as the head of a bound- or a double-type *smixut*, but not as the head of the separate type, as shown below:

(9) NOMINAL-TYPE GERUNDS AS CONSTRUCT-STATE HEADS		
(i)	a. šuv hasfinot returning-of the-ships 'the ships' returning'	(ii) hikanes hayéled entering-of the-boy 'the boy's entering'
	b. *šuv šel sfinot *hašuv šel hasfinot	*hikanes šel yéled *hahikanes šel hayéled
	c. šuvan šel hasfinot	hikanso šel hayéled

The examples indicate that gerunds cannot occur freely with the genitive particle *šel*, unless they are further bound by the pronominalization of the adjunct N (*sfinot* or *yéled* in the examples). Note that this constraint cannot be explained on the grounds that the gerund does not take the definite marker *ha-*, because neither of the two cases listed under (b) above is grammatical, whether the gerund is represented with a definite marker or not. Moreover, this constraint sets the gerund apart from its often synonymous "Action Nominal" counterpart, (see Chapter Ten, particularly Section 10.6), for the latter can in fact occur in the separate type of construct form, as well as in the two others, as indicated by the well-formedness of the following:

(10) ACTION NOMINAL HEADS

(i)	a.	šiva	šel	sfinot	(ii)	a.	knisa	šel yéled
		return	of	boats			entrance	of (a) boy
		'boats' return					'a boy's entrance'	
	b.	hašiva	šel	sfinot		b.	haknisa	šel yéled
		the return	of	boats			the entrance	of (a) boy
	c.	hašiva	šel	hasfinot		c.	haknisa	šel hayéled
		the return	of	the boats			the entrance	of the boy

Another interesting point is that a rather different picture emerges where the gerund functions not as the head but as the adjunct member of a genitive:

(11) GERUNDS AS CONSTRUCT-STATE ADJUNCTS

(i) a. bsorat šuv hasfinot
news-of returning-of the-boats
'the news of the boats' returning'

b. habsora šel šuv hasfinot

BUT c. *bsorato šel šuv hasfinot

(ii) a. efšarut hikanes hayéled
possibility-of entering-of the-boy
'the possibility of the boy's entering'

b. haefšarut šel hikanes hayéled

BUT c. *efšaruto šel hikanes hayéled

Here we see that where the adjunct is a gerund such as *šuv* or *hikanes* (in turn themselves heads of compound constructions because, as noted

before, gerunds must be followed by an overt Subject NP), then the *smixut* construction can take either the bound or the free form, but not the pronominalized form. It might be argued that the reason for this constraint is that gerunds, not being "true" nouns, cannot be pronominalized – though this is possible in phonological terms; but such an argument is weakened by the fact, to be noted in the following section, that Action Nominals, which are as susceptible to pronominalization as any other noun in the language, do not generally occur as the adjunct in double-type *smixut* constructions either.

d. Derived Nominals – V-Nom and A-Nom

In this section we consider two types of "derived" nominals: abstract nouns – loosely termed Action Nominals in the preceding section – which are derived from verbs, symbolized by V-Nom; and abstract nouns derived from underlying adjectives, symbolized by A-Nom. In keeping with the very nominal nature of these forms, they can both function as the head element of all three types of *smixut*, as illustrated below (examples in (i) being [-DEFINITE], those in (ii) [+DEFINITE].

(12) V-NOM AS CONSTRUCT-STATE HEADS

(i) a. knisat yéled
entrance-of boy
'a boy's entrance'
b. knisa šel yéled
c. knisato šel yéled

(ii) a. bitul haxok
cancellation-of the-law
'the law's cancellation'
b. habitul šel haxok
c. bitulo šel haxok

(13) A-NOM AS CONSTRUCT-STATE HEADS

(i) a. pzizut cəirim
recklessness-of young-people
b. pzizut šel cəirim
c. pzizutam šel cəirim

(ii) a. xumrat hamacav
severity-of the-situation
b. haxumra šel hamacav
c. xumrato šel hamacav

Of particular interest with respect to verb nominalizations is the fact that either the deep-structure Subject NP or the deep-structure Object NP can function as the adjunct element, on condition that the underlying

verb takes an object in the accusative (marked by the prepositional *et*) as illustrated below: (See Section 4.3, particularly the examples under item (20) for further discussion.)

(14) V-NOM AS HEADS WITH NP SUBJECT OR OBJECT AS ADJUNCT

(i) dan daxa et hahacaa (OM = Object Marker)
'Dan rejected OM the-offer'

(ii) a. dxiyat dan et hahacaa
rejection Dan OM the-offer
'Dan's rejection of the offer'

b. hadxiya šel dan et hahacaa

c. dxiyato šel dan et hahacaa

(iii) a. dxiyat hahacaa al ydey dan
rejection-of the-offer by Dan
'Dan's rejection of the offer'

b. hadxiya šel hahacaa al ydey dan

c. dxiyata šel hahacaa al ydey dan

What these examples show is that irrespective of which of the underlying NP's functions as adjunct with respect to the nominalized verb, all three forms of *smixut* are again, as is to be expected, equally acceptable. The only constraint we have noted with respect to the functioning of abstract nominalizations in *smixut* constructions is one they share with gerunds: they tend not to occur as the adjunct element in the double kind of *smixut*, as shown below:

(15) V-NOM AS CONSTRUCT-STATE ADJUNCTS

(i) a. mikre healmuto
case-of disappearance-his
'the case of his disappearance'

b. hamikre šel healmuto

BUT c. *mikra šel healmuto

(ii) a. txum hitmaxut dan
field-of specialization-of Dan
'Dan's field of specialization'

b. hatxum šel hitmaxut dan

BUT c. *txuma šel hitmaxut dan

(16) A-NOM AS CONSTRUCT-STATE ADJUNCTS

(i) a. si hakóši
height-of the-difficulty
'the height of difficulty'

b. hasi šel hakóši

BUT c. *sio šel hakóši

(ii) a. baayat aminuto šel sgan hanasi
problem-of credibility-his of the vice president
'the problem of the vice president's credibility'

b. habaaya sel aminuto šel sgan hanasi

BUT c. *baayata sel aminuto šel sgan hanasi

This constraint, rendering the (c) examples above ill-formed, seems to be a purely conventional matter – not motivated on independent semantic or syntactic grounds. For example, it applies irrespective of whether the head is human or inanimate, and it cannot be accounted for by the need for pronominalization in examples (c) above – for derived nominals are ordinarily as susceptible to pronominalization as any other nominal, being clearly marked for number and gender. In fact, some speakers argue that this constraint is not as strong as we have indicated: they feel that the occurrence of derived nominal adjuncts in the double type of construction, though odd in terms of acceptability and evidently non-existent in actual usage, is not strictly speaking "ungrammatical."

e. Summary

In this section, then, we attempted to establish at least one set of instances in which a bound form of *smixut* might be mandatory – by examining different types of nominalizations. The picture that emerges is as follows:

(17) OCCURRENCE OF NOMINALIZED FORMS IN GENITIVE CONSTRUCTIONS

	AS HEAD			AS ADJUNCT		
	Bound	Separate	Double	Bound	Separate	Double
Benoni: Verb	+	-	-	-	-	-
Noun	+	+	+	+	+	+
Gerund	+	-	+	+	+	-
V-Nom	+	+	+	+	+	-
A-Nom	+	+	+	+	+	-

What transpires is that the bound form is obligatory only in the case of the distinctly verbal *benoni*-form participal (and also, as noted in point (a) above, in the case of Adjectives). Elsewhere, the ability of free occurrence in various types of genitive constructions provides a reliable index of "degree of nominalness" of various types of nominalized constructions in the language: *benoni*-form Agent Nouns being from this point of view just like any non-derived noun in the language; abstract nominalizations of verbs and adjectives being very much like ordinary nouns (with one constraint in this respect – their non-occurrence as the adjunct of double *smixut*); and gerunds being even more severely constrained and hence even less noun-like. This scaling is supported by independent evidence, as discussed at various other points in the following chapters where different kinds of nominalizations are considered.

7.3 PRONOMINAL ADJUNCTS

A special case of *smixut* arises where the adjunct takes the form of a personal pronoun. Consider the following examples, where in each case the adjunct in (1.) is a regular N, and in (2.) it is [+PRO].

(18)	(i)	1.	bet ⌐dan	2. beto
			house-of Dan	house his
			'Dan's house'	'his house'
			bet ⌐hayalda hahi	beta
			house-of the-girl the-that	house her
			'that girl's house'	'her house'
			bet ⌐kol hayəladim	betam
			house-of all-the-children	'their house'
	(ii)	1.	hagaat ⌐dan	2. hagaato
			arrival-of Dan	arrival-his
			'Dan's arrival'	'his arrival'
			hagaat ⌐hayalda hahi	hagaata
			arrival-of the-girl the-that	arrival-her
			'that girl's arrival'	'her arrival'
			hagaat ⌐kol hayəladim	hagaatam
			arrival-of all the-children	arrival-their
			'all the children's arrival'	'their arrival'
			'the arrival of all the children'	

The above examples illustrate the following points: firstly, these are all clearly cases of *smixut* – both because morphologically the head noun takes the same form in both cases (a form which is rather different from the "free" form of the nouns *báyit* 'house' and *hagaa* 'arrival'), and because the same type of relationship is expressed between the head and its pronominal adjuncts in (2.) as between the head and its full-noun adjuncts in (1.) – Possessed-Possessor in the examples in (i) and Action-Agent in the examples in (ii). The main difference is morphological, in the sense that in the first column the adjunct is a separate word, while in the second column the pronominal is enclitically attached to the head to form a single word: *beto, beta, betam* (see Section 3.1.2). Now consider what happens when the pronominal adjunct is connected to the head noun not in a bound type of *smixut*, as above, but in a separate or double *smixut*, as below. The different types of constructions can be schematically represented as follows, where N_x is the head, N_y the adjunct, and ⌐ indicates enclitic affixation.

(19) a. Bound: $\overbrace{N_x\ PRO_y}$

b. Separate: $N_x\ \overbrace{šel\ PRO_y}$

c. Double: $\overbrace{N_x\ PRO_y}\ šel\ PRO_y$

(i) a. beto
b. habáyit šelo } 'his house'
c. beto šelo

(ii) a. seruvam
b. haseruv šelahem } 'their refusal'
c. ?seruvam šelahem

All three forms are quite possible (though we need to consider the question mark in (ii-c): (a) and (b) are synonymous alternants, where – in line with what we said earlier in this chapter – the separate form (b) is less formal and more common in ordinary colloquial usage than is the bound form (a); the interesting variation comes in with type (c), which is not strictly speaking synonymous with the other two; for where the adjunct is itself a pronominal, its double pronominalization has an emphatic effect, so that *beyto šelo* comes to mean something like 'his (very) own house' and *yaldi šeli* 'my (very) own child'; the question mark in (ii-c) indicates that this type of emphasis seems to be feasible only where the relationship between N_x and N_y is one of possession; and indeed, such renderings as 'her very own arrival' or 'their very own refusal' seem dubious. Here, then, is an instance where the double form of *smixut* does have a specific semantic content of its own.

7.4 DEFINITENESS MARKING

In general, the definite marker *ha-* is prefixed not only to the head noun but also to its various non-sentential modifiers, such as demonstratives and adjectives. Consider, for instance,

(20) (i) a. yéled gadol
boy big
'(a) big boy'

b. hayéled hagadol
'the big boy'

(ii) a. yəladim gdolim rabim
boys big many
'many big boys'

b. hayəladim hagdolim harabim
'the many big boys'

One notable exception to this generalization is the case of *smixut*: in any given *smixut* construction, the definite marker is attached only once – to only one of the nominal elements.[4] This is, in fact, to be expected, in the sense that *smixut* constructions display various properties which indicate that they have single-word or compound-noun status rather than phrasal status (as compared with, for example, the expressions in (20) above). In general, we shall try to show that the adjunct element in a *smixut* construction needs to be viewed as a kind of affix to the head, rather than as an independent constituent. From this point of view, then, it is quite consistent with the general character of *smixut* constructions that the definiteness marker occur only once.

However, there is an unpredictable aspect to the situation: the prefixal *ha-* attaches not to the head element in the construction, which is sequentially the first nominal in the expression (the head noun generally preceding its modifiers in Hebrew NP's), but to the adjunct, as follows:

(21) (i) a. parat ikar
cow-of farmer = 'a farmer's cow'

b. parat haikar
cow-of the-farmer = 'the farmer's cow'

(ii) a. mnahel misrad
director-of office = 'an office director'

b. mnahel hamisrad
director-of the-office = 'the office director'

Any other combination, such as **haparat haikar* or **haparat ikar* is ungrammatical. In other words, the two elements of the *smixut* construction – head and adjunct – must agree in definiteness: if the definite marker *ha-* is attached to the adjunct, the expression as a whole is [+DEFINITE]; if not, the expression is [-DEFINITE]. Of course, where the adjunct is itself intrinsically definite – in case it is a Proper Noun or a pronominal – the expression as a whole will be definite. The situation can be illustrated as follows.

(22) (i) a. hagaat dan pitomit
arrival-of Dan sudden
= 'Dan's arrival is sudden'
NOT 'Dan's sudden arrival'
b. hagaat dan hapitomit
the-arrival-of Dan the-sudden
= 'Dan's sudden arrival'

(ii) a. yaldo gadol
boy his big
'his boy is big'
NOT 'his big boy'
b. yaldo hagadol
boy his the big
= 'his big boy'

(iii) a. parat haikar šmena
cow-of the-farmer fat
'the farmer's cow is fat'
NOT 'the farmer's fat cow'
b. parat haikar hašmena
cow-of the-farmer the-fat
= 'the farmer's fat cow'

Incidentally, the last example cannot be interpreted as 'the fat farmer's cow' simply because of concord requirements, where *para* requires the feminine adjective form *šmena*, and *ikar* requires the masculine form *šamen*. We return to superficially ambiguous cases of adjective modification in a later section of this chapter.

The well-formedness of the (a) examples as sentences rather than as NP's is due to the non-occurrence of an overt copula morpheme in Present-Tense sentences (as explained in Section 6.2). This surface similarity of the (a) and (b) cases in (22), where the only difference is in the occurrence of the definite marker on the adjunct of the nominal in (b) and its non-occurrence on the complement of the sentence in (a), is avoided if some overt marker of the copula is present; thus, for (i-a): *hagaat dan hi pitomit* 'Dan's arrival it (=is) sudden' or *hagaat dan hayta pitomit* 'Dan's arrival was sudden'.

The fact that the definiteness marker is attached to the adjunct rather than the head element in bound genitives is not only semantically

arbitrary but, as noted earlier, inconsistent with the very general tendency in Hebrew for *ha-* to attach to the initial, head element in **all** other types of nominal expressions. This inconsistency is borne out in colloquial usage, where certain compounds which have become fixed expressions (and are hence viewed as unitary lexical items) are almost always used with the *ha-* attached initially – to the distaste of the purists. Thus the form listed in (b) below is easily as common in everyday usage as is the more normative form listed in (c):

(23) (i) a. bet sé̱fer
house-of book = 'school'
b. habet sé̱fer = 'the school' (Colloquial)
c. bet hasé̱fer = 'the school' (Normative)

(ii) a. mərakez mé̱šek
coordinator-of farm = 'farm manager'
b. hamərakez mé̱šek = 'the farm manager' (Colloquial)
c. mərakez hamé̱šek = 'the farm manager' (Normative)

Both the examples above are of set expressions in the lexicon of Modern Hebrew; yet one finds even well-educated speakers doing the same thing with other, less fixed compounds, too. For instance, one may hear a local meat-processing plant – *mifal basar*, literally 'plant-of meat' – invariably referred to as *hamifal basar*; and in a radio interview, one may hear a native-born high-ranking army officer keep referring to a P.O.W. camp – *maxane švuyim*, literally 'camp-of captives' – as *hamaxane švuyim*.

We attempted an informal check on instances where the normative usage is violated, and the data indicate that *ha-* is preposed to the entire compound in: a) the speech of young children (who would naturally tend to use only fixed bound compounds, elsewhere using *šel* to express the genitive relationship); b) the usage of all kinds of speakers except the most normative with respect to set expressions which are evidently perceived as single, indivisible lexical items; and c) a wide variety of other instances, due to a kind of "performance error," where the speaker – so it appears – operating in terms of some definite concept, unthinkingly attaches the definite marker to that element of the concept which is both sequentially initial and syntactically and semantically marked as its head or focus. This might also explain cases where speakers attach the *ha-* to **both** elements of the compound: the

first time, for the reason just noted, and the second, as a kind of "correction" of the error they have just performed. This tendency to prepose *ha-* seems to be quite powerful, and it may well indicate the beginnings of a basic change in Hebrew syntax. The fact that children almost always put the *ha-* at the beginning of a compound seems to bear out this prediction.

So far in this section we have considered only what happens in the case of the bound type of *smixut*. Interestingly enough, the restrictions noted above with respect to the single occurrence of *ha-* in a given compound to not apply to either of the other two types of genitive constructions. Thus, in the case of the separate form, all four logical possibilities are well-formed, as below:

(24) a. para šel ikar
cow of farmer = 'a farmer's cow'

b. hapara šel ikar
the cow of farmer = 'the cow of a farmer'

c. para šel haikar
cow of the farmer = 'a cow of the farmer's'

d. hapara šel haikar
the cow of the farmer = 'the farmer's cow'

Examples (a) and (d) above correspond to the non-definite and definite bound versions – *parat ikar* and *parat haikar* – respectively, but here the formative *ha-* is attached to neither element or to both of them, unlike in the case of the bound form. The two other forms, (b) and (c), which are far less common in actual usage – and which in fact are dismissed as ungrammatical by some speakers – express certain nuances not available in the more restrictedly balanced bound forms: where only the head has the *ha-* marker, as in (b) above, the interpretation would be generic, the idea being 'the cow of a farmer, rather than, say, the cow of a shoemaker'. Thus, if one wanted to say something like 'I saw a farmer's cow standing in its stall and being milked by its owner', the more neutral type (a) would be used; but if one wanted to express the idea 'I need a farmer's cow, so don't give me any of that plastic junk', form (b) might be preferred (though many would prefer the double form *parato šel ikar*). As for type (c), where the adjunct but not the head has the definite marker, the idea is more 'one of . . .' or a double type of genitive, as indicated by the English

gloss: 'a cow of the farmer's' – in the sense of 'one of the farmer's cows' or 'one of the cows the farmer has'. (Again, those who object to (b) and (c) would use the quantifier *axat* 'one' here.) Exactly the same set of meanings can be considered with respect to a combination such as *orex šel iton* 'editor of (a) newspaper' or *kirot šel báyit* 'walls of (a) house'. Here, then, we have an instance where the separate form may be preferred over the bound form of *smixut*, in order to express the kind of determinacy or indeterminacy illustrated in (b) and (c) above.

The situation with respect to double *smixut* is more like that of the bound case, but here it is syntactically better motivated for the simple reason that once the head element has affixed to it the pronominalized version of the adjunct, the head noun is intrinsically definite, and the definite marker *ha-* can no longer be attached to it. That is, there is no form such as **haparato* 'the-cow-his' – just as there is no 'the his cow' in English. What emerges is the following:

(25) a. parato šel ikar
cow his of farmer = 'a farmer's cow'

b. *haparato šel ikar

c. parato šel haikar = 'the farmer's cow'

d. *haparato šel haikar

Here, then, the head is intrinsically definite by virtue of its enclitic pronominal – and the expression as a whole is either nondefinite or definite depending on whether *ha-* is omitted or attached to the adjunct element. Syntactic evidence for the claim that here it is the adjunct element which determines the definiteness of the expression as a whole is provided by the restriction on the occurrence of the object marker *et*, normally confined to NP's which are [+DEFINITE], as in: *raíti et dan* 'I-saw OM Dan', *raíti et parato* 'I-saw OM his-cow' or *raíti et hapara* 'I-saw OM the-cow'. Thus, with respect to the examples in (25), one gets *raíti parato šel ikar* 'I-saw cow-his of (a)-farmer' with no object marker, as compared with *raíti et parato šel haikar* 'I-saw OM cow-his of the-farmer'.

The possibilities can be diagrammed as follows:

(26) ATTACHMENT OF DEFINITE MARKER TO *SMIXUT* ELEMENTS

	Bound	Separate	Double
a.	$N_x\overline{N_y}$	N_x šel N_y	$N_x\overline{PRO_y}$ šel N_y
b.	*ha-N_x N_y	? ha-N_x šel N_y	*ha-N_x PRO_y šel N_y
c.	$N_x\overline{\text{ha-}N_y}$	? N_x šel ha-N_y	$N_x\overline{PRO_y}$ šel ha-N_y
d.	*ha-N_x ha-N_y	ha-N_x šel ha-N_y	*ha-N_x PRO_y šel ha-N_y

7.5 MORPHOLOGICAL FORM

Any noun in Hebrew has potentially two surface forms: "free" and "bound" – the latter being the form taken by a noun when bound by a suffix, such as the plural or the possessive. The interesting point in this connection is that phonologically speaking the adjunct element of a *smixut* construction has the same effect as any other affix. We shall illustrate this point with respect to two main types of processes: vowel reduction and final /t/ elision (touched on briefly in Section 3.1.2).

Generally, penultimate non-high vowels are deleted in nouns in the presence of a stressed suffix. An identical set of rules and constraints applies to the head noun of a bound *smixut* construction – as shown in the examples listed under (c) below:

(27) a. FREE FORM
b. + SUFFIX
c. + ADJUNCT

(i)	a.	šalom	'peace'
	b.	šlomi	'my peace'
	c.	šlom báyit	
		peace-of house	'peace at home'
(ii)	a.	nicaxon	'victory'
	b.	nicxonot	'victories'
	c.	nicxon hacava	'victory-of the-army'
(iii)	a.	davar	'word, thing'
	b.	dvarim	'words, things'
	c.	dvar elohim	'(the)-word-of God'
(iv)	a.	pakid	'clerk'
	b.	pkidut	'clerkship, bureaucracy'
	c.	pkid haezor	'clerk-of the-region'

Note that these deletions do not occur when the noun in question is modified by an adjective, thus, *šalom beyti* 'peace domestic = domestic peace', *nicaxon cvai* 'military victory', *davar elohi* 'divine thing', *pakid ezori* 'regional clerk' – this fact, too, indicates the peculiarly "affixal" character of the *smixut* adjunct.

A second instance of the bound form of the *smixut* head is manifested by the rule deleting word-final /t/ in feminine nouns following the stressed low vowel /a/. Again, the *smixut* adjunct has the same effect as an enclitic suffix:

(28)	(i) a.	simla	'dress'
	b.	simlati	'my dress'
	c.	simlat kala	
		dress-of bride	'(a) bride's dress'
	(ii) a.	para	'cow'
	b.	parato	'his cow'
	c.	parat ikar	'farmer's cow'
	(iii) a.	mdina	'state'
	b.	mdinaténu	'our state'
	c.	mdinat yisrael	'state-of Israel'

The examples in (a) indicate that underlying /t/ is deleted at word-final position – under certain quite complex constraints: just in case the preceding vowel is /a/ – compare *simla* or *para* with *monit* 'taxi' or *xanut* 'store'; the noun must be feminine – compare *simla* 'dress' with *miklat* 'shelter', or *kala* 'bride' with *salat* 'salad', and so on. The fact that the /t/ is retained in the examples in (c) above indicates that there is no word boundary between the head and adjunct nouns of a *smixut* construction – but that they need to be viewed as dominated by a single N node, rather than by a phrasal NP node.

The majority of Hebrew nouns have the same surface form in the free and the bound state, *inter alia*, because the process of vowel reduction before stressed suffixed or *smixut* adjuncts illustrated in (28) above is constrained in several ways (i.e., to a penultimate stem vowel which is non-high following a non-low consonant and followed by no more than one consonant). Examples of nouns which do not manifest such alternations include:

(29) (i) No penultimate stem-vowel

a. sus	'horse'
b. susa	'mare'
c. sus hamelex	'the king's horse'

(ii) More than one consonant following penultimate stem-vowel

a. tarmil	'knapsack'
b. tarmili	'my knapsack'
c. tarmil gav	'back knapsack'

(iii) Low consonant preceding penultimate stem-vowel

a. xaver	'friend'
b. xaverim	'friends'
c. xaver yaldut	'childhood friend'

(iv) High penultimate stem-vowel

a. kinor	'violin'
b. kinorot	'violins'
c. kinor david	'David's harp'

Similarly, nouns with the feminine plural ending *-ot* will take the same form in the regular and the genitive plural – vowel reduction in either event being incurred by the stressed suffix *-ot* just in case the phonological conditions noted earlier are met. Nouns with the masculine plural ending *-im* take the special ending *-ey* in the construct plural (an alternation which has historical sources that need not concern us here). Thus:

(30) (i) a. tarmil

b. tarmilim	'knapsacks'
c. tarmiley gav	'back knapsacks'

(ii) a. xaver

b. xaverim	'friends'
c. xavrey dan	'Dan's friends'

(iii) a. sipur

b. sipurim	'stories'
c. sipurey hatanax	'Bible stories'

(Other alternations in the plural construct form are due to a variety of phonological processes that we shall not consider here: e.g., *yéled* 'child', *yəladim* 'children', *yaldey haʃxuna* 'the neighborhood children'; *degel* 'flag', *dəgalim* 'flags', *digley haumot* 'the nations' flags'.)

A number of nouns have a different bound and free form for historical reasons which are only partially determined by regular phonological processes still productive in Modern Hebrew. Several alternations thus form part of the more or less idiosyncratic knowledge the native speaker has of certain words in his language. These include words such as *báyit* 'house' and *áyin* 'eye' which have a non-diphthongized bound stem *bet, en,* etc. But again, this stem will occur both before suffixal endings and before a *smixut* adjunct noun (e.g., *beto* 'his house' – *bet yəladim* 'children's house'), strengthening the claim that phonologically the adjunct N has the nature of a stressed suffix.

7.6 MODIFICATION AND CONJOINING

Any surface string of the form $N_x \overline{\ } N_y$ Adj is potentially ambiguous with respect to which element is being modified by the adjective A: the head N_x or the adjunct N_y. Consider the following.

(31) a. sifrey yəladim gdolim
books-of children big
'big books of children'
OR 'books of big children'

b. cipor hayalda hayafa
bird-of the-girl the-pretty
'the pretty bird of the girl'
OR 'the bird of the pretty girl'

Of course such ambiguity can be resolved by concord requirements (not applicable in (31) above where both head and adjunct nouns are of the same number and gender). Thus:

(32) (i) a. parat ikar šmena
'fat cow of (a) farmer'

b. parat ikar šamen
'cow of (a) fat farmer'

(ii) a. sifrey hayéled hagdolim
'the big books of the child'

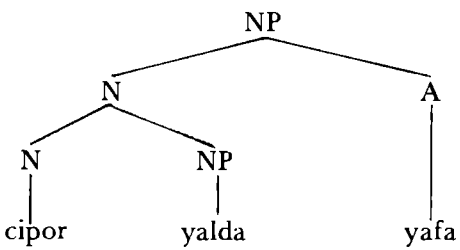
b. sefer hayəladim hagdolim
'the book of the big children'

Besides, as noted, this is no more than a surface problem, resolvable in terms of constituent bracketing, as follows:

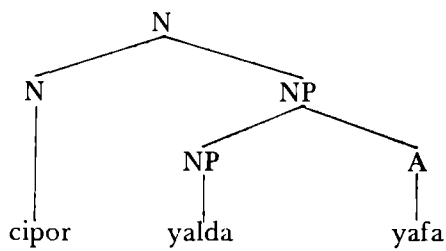
(33) (i) a. [[sifrey yəladim] [gdolim]]
b. [[sifrey] [yəladim gdolim]]
(ii) a. [[cipor hayalda] [hayafa]]
b. [[cipor] [hayalda hayafa]]

The point here is that the head constituent must invariably be a simplex N, whereas the adjunct can be either a simple N or a complex NP – consisting of N + A + Det or of N + N (another construct-state expression), etc. If, for the reasons noted earlier, we view each *smixut* construction as coming under a single N node, the various possibilities can be depicted as follows:

(34) a. HEAD MODIFICATION



b. ADJUNCT MODIFICATION



Notice that it is the head alone which is constrained to being a "simplex" type of constituent – the adjunct can take various modifiers, retaining the normal surface sequence of N + Adj + Det. Consider now the following case:

(35) cipor hayalda hayafa hazot
bird-of the-girl the-pretty the-this
'this pretty bird of the girl'
OR 'the bird of this pretty girl'
OR 'this bird of the pretty girl'

In each case constituent-structure bracketing will manifest the different derivations along the lines shown in (34).

The adjunct itself can also form the head of a *smixut* construction, making *smixut* an iterative process, as follows:

(36) (i) cipor yaldat haikar
bird-of girl-of the-farmer
'the farmer's daughter's bird'

(ii) sifrey yaldey hašxuna
books-of children-of the-neighborhood
'the books of the neighborhood children'

And again, either the head or the adjunct can be modified – by adjectives, determiners, or relative clauses coming at the end of a *smixut* construction – with the same potential surface ambiguities as illustrated earlier (where gender and number concord do not serve to disambiguate). Understandably, in actual usage, iteration of compounding is avoided (probably for psycholinguistic perceptual reasons), and the free form with *šel* is used, to yield, say, *hasfarim sel yaldey hašxuna* in place of (36-ii) above. Theoretically, however, there is no upper limit to the recursion of noun compounding.

The requirement that the head constituent be confined to a single N element rules out conjoined heads of the following type:

(37) (i) *mnahel vəovdey hamosad
director and-workers-of the-institution

(ii) *éšet vəaxayot dan
wife and-sisters-of Dan
'Dan's wife and sisters'

Although this constraint is quite generally violated in colloquial usage, normative Hebrew requires that the second (and third or fourth, etc.) conjoined element be brought around to **follow** the adjunct, as shown below. Here, too, we would predict a general trend to change in the language, as the expressions illustrated in (38) and (39) are rare in normal colloquial parlance.

(38) (i) mnahel hamosad vəovdav
director-of the-institution and-workers-its
'the director and workers of the institution'

(ii) éšet dan vəaxayotav
wife-of Dan and-sisters his
'Dan's wife and sisters'

In such a case, N_y (the adjunct *hamosad* or *dan*) is pronominalized as a suffix on the second of the two conjunct head N's.[5] This process, too, can be iterated, as shown below:

(39) (i) mnahel hamosad, ovdav vətalmidav
director-of the-institution, workers-its and-students-its

(ii) éšet dan, axayotav vəxaverav
wife-of Dan, sisters-his and-friends-his

The constraints noted above apply only in the case of the bound type of *smixut*. The free form with the genitive particle *šel* is not constrained in this way, nor is the double form, as shown below:

(40) (i) a. hasfarim hagdolim šel hayəladim
the books the big of the children
'the children's big books'

OR b. sifreyhem hagdolim šel hayəladim
books their the big of the children

(ii) a. hacipor hazot šel hayalda
the bird the this of the girl
'this bird of the girl's'

OR b. cipora hazot šel hayalda
bird her the this of the girl

Similarly, where several head elements are conjoined, they can all precede the adjunct on condition that they are attached to the latter by the particle *šel*; that is, irrespective of whether they include a pronominalized version of the adjunct or not, as long as they are not bound to the adjunct. Thus:

(41) (i) a. hamnahel vəhaovdim šel hamosad
the director and the workers of the institution
'the director and workers of the institution'

OR b. mnahalo vəovdav šel hamosad
director its and workers its of the institution

(ii) a. haiša, haaxayot vəhaxaverim šel dan
the wife, the sisters and the friends of Dan
'Dan's wife, sisters, and friends'

OR b. išto, axayotav vəxaverav šel dan
wife his, sisters his and friends his of Dan

All this points to the special nature of the bound *smixut* as the paradigm version of this particular construction, and as one which is constrained in highly specific ways, syntactically as well as morphologically.

7.7 DERIVATION OF GENITIVE CONSTRUCTIONS

In order to account for the facts outlined in the earlier parts of this chapter, most specifically those concerning the three possible external manifestations of *smixut* constructions noted in Section 7.1 above, we propose two distinct derivational histories for *smixut* forms: one derivation will apply to all and only *smixut* constructions with a possessive interpretation, in which case the separate form with the particle *šel* is viewed as basic (Section 7.7.1 below); the other will be assigned to all other cases of *smixut* constructions, and in this case the bound form of *smixut* will be viewed as basic (Section 7.7.2 below). This procedure is clearly a marked departure not only from traditional views of *smixut* in Hebrew grammars, but also from accepted analyses of "genitive" constructions – where a unified view is generally taken of the category of genitive as a whole, whether the relationship between the two nominals is one of possession or not.

On the other hand we can justify our approach *a priori* by noting that in contemporary discussions of Noun Compounds (e.g., for English, Lees 1960, 1970; for German, Motsch 1968, 1970; and for Hebrew, Levi 1976b) the process of compounding – corresponding to the bound form of Hebrew *smixut* – is treated as a special problem, distinct from constructions with, say, 'of'. Moreover, any analysis of English must posit a related underlying base for such superficially variant forms as the following, where all the expressions share a common interpretation of "possession":

(42) (i) a. the boy has red hair
b. the boy's red hair
c. the red hair of the boy
d. the boy whose hair is red
e. the boy the hair of whom is red
f. the boy with red hair
g. the red-haired boy

(ii) a. a street has lamps
b. a street's lamps
c. the lamps of a street
d. a street whose lamps ....
e. a street the lamps of which ....
f. a street with lamps
g. street lamps (?)

The only query noted in (42) is with respect to the Noun Compound 'street lamps' which may well have a non-possessive interpretation, unless we recognize the quite general relationship between locative-existential notions such as 'there are lamps in that street' and the possessive 'that street has lamps'.

Below we attempt to describe and motivate the two distinct derivations of *smixut* suggested above.

7.7.1 "Possessive" *smixut*

Here we are concerned with expressions such as *hapara šel haikar* 'the-cow of the-farmer' and its bound counterpart *parat haikar*. These are clearly related to sentences of the following surface form:

(43) a. laikar yeš para
to the farmer is cow
'the farmer has a cow'

b. yeš laikar para
(there) is to the farmer cow
'the farmer has a cow'

where the choice between (a) and (b) is mainly one of focus – (a) being the more neutral or unmarked form of possessive sentences (see the discussion of copula sentences, Section 6.4.3).

The derivation we propose can be represented roughly as shown in (44) below, where the underlying string (i) includes the existential

possessive form of the present-tense copula *yeš*; (ii) is derived by Relativization, involving Equi-NP deletion of the head N *para* and adjunction of the Relative Marker *še* 'that'; and (iii) is derived by the requirement of Copula-Deletion just in case the dominating NP is [+PRESENT] — a rule considered separately in our discussion of copula sentences (see Chapter Six).

(44) (i) $_{NP}[\text{para}\ _{S}[\text{para yeš ləikar}]]$ by RELATIVIZATION ⇒

(ii) $_{NP}[\text{para}\ _{NP}[\text{še yeš ləikar}]]$ by COP DELETION ⇒

(iii) $_{NP}[\text{para}\ _{NP}[\text{še ləikar}]]$ by *šel* FORMATION ⇒

(iv) $_{NP}[\text{para šel ikar}]$

The only rule specifically required for the case of *smixut* is the one involved in the derivation of (iv) above — *šel* Formation. This takes the form of a morphophonemic process which can be crudely formulated as follows:

(45) *šel* FORMATION: še + lə → #šel# / — NP

where *še-* represents the Relative Marker 'that', and *lə-* the dative marker 'to', which in Hebrew also signifies possession.[6]

The rule of Copula Deletion is independently motivated, as shown by the following alternations:

(46) (i) a. yeš lə dan séfer
(there)is to Dan book
'Dan has a book'

OR b. ledan séfer

(ii) a. yeš li hapitaron
(there)is to me the solution
'I have the solution'

OR b. li hapitaron

(iii) a. haséfer še yeš lədan hu šeli
the book which is to Dan it(is) mine
'the book Dan has is mine'

OR b. haséfer še lədan hu šeli

The expressions in (b) are synonymous to those in (a) but they are far more formal in style and rarely found in normal colloquial usage. Thus it is most plausible that in actual usage the third example in (b) above, *haséfer še+lə́dan* will in fact most generally undergo *šel* Formation as formulated in (45).

The analysis proposed in (44) above assumes that the separate form of *smixut* is the basic one, the other two forms being derived therefrom, along the lines suggested below:

(47)

	NP[N		PART	N	X]
	1		2	3	4
(i) by POSS ADJUNCTION ⇒	1+	[3 +PRO +POSS]	2	3	4
(ii) by PART DELETION (OPT) ⇒	1		∅	3	4
(iii) by CONSTRUCT FORMATION ⇒	1 +			3	4

The operation of this series of rules, where PART stands for the possessive particle *šel* and + stands for a process of adjunction under a single node, may be illustrated as follows:

(48) *parat šel ikar zaken
cow(Bound) of farmer old
'the cow of an old farmer'

(i) parato šel ikar zaken
(ii) *parat ikar zaken
(iii) parat ikar zaken

Note that the inacceptability of the outcome of (ii) above is not due to merely morphological factors (as discussed in Section 7.5 above). Rather, it specifies that given a construction of the form N NP, where nothing intervenes between the two constituents (e.g., a case-marking preposition), then rule (iii) of Construct-Formation is **obligatory** – for only then will the other properties of the bound construct noted earlier in this chapter be preserved (e.g., the special nature of definiteness marking, vowel reduction, and modification – Sections 7.4, 7.5, 7.6, respectively).

Note that this series of rules will apply in a similar fashion when element 3 (the adjunct N) takes the form of a Pronoun. This situation can be shown below:

(49) *parat yeš ləhu
cow is to he
'his cow'

⇒ parat še+ ləhu (by 44-ii & iii)
⇒ *parat šel hu = para šelo (by 44-iv)
⇒ parato šelo (by 48-i)
OR parato (by 48-ii & iii)

yielding the three alternative versions of 'his cow' or the non-definite 'a cow of his': separate *para šelo*, double *parato šelo*, bound *parato*.

In summary, we view *smixut* constructions expressing the relationship of possession between the head N_x and the adjunct N_y (N_x being possessed, N_y the possessor) as a distinct type of nominal construction. As such, they are derived from possessive sentences with the underlying form $\{N_x$ yeš lə$N_y\}$ via Relativization, Cop Deletion and *šel* Formation as outlined in (44); this accords with the historical facts, in that possession was quite generally expressed in Biblical Hebrew **not** by the particle *šel*, but by expressions of the form: $\{N_x$ ašer (=še-) lə-$N_y\}$, *šel* being a later development.

Interestingly enough, for non-possessive instances of N⌒NP adjacencies, the bound form alone is typical of Biblical Hebrew (see fn. 2 to this chapter). Moreover, in stipulating the separate form of *smixut* as basic to expressions of possession, our analysis accords with the facts of usage, where *báyit šel adam ašir* 'house of (a) rich man' or *hamaxbéret šel hatalmid* 'the-notebook of the-student' are far more usual than their bound counterparts, *bet adam ašir* or *maxbéret hatalmid*, respectively.

7.7.2 "Non-Possessive" *smixut*

Our claim here is that for all non-possessive instances of a *smixut* (genitive) relationship, the bound form is basic, the separate and double versions being derived therefrom. What we are concerned with in this section, then, is essentially the characterization of Noun Compounding in Modern Hebrew. In listing the reasons for adopting this view, we reiterate some points noted in earlier sections of this chapter, particularly in Section 7.2.

a) All and only true nouns — that is, items assigned the lexical categorization N — are susceptible of all three forms of *smixut*. Yet, any element which has certain nominal properties, and which can thus be characterized as [+n], is eligible as the head element of a bound *smixut*. Such restricted cases include Adjectives and non-noun instances of the

benoni, as outlined in 7.2.2a,b above (e.g., *yafat tóar* 'beautiful of appearance' or *arukey raglάyim* 'long-of leg' for Adjectives; *lokxey šóxad* 'takers-of bribes' or *ose carot* 'maker-of trouble' for *benoni*-form verbs).

b) All cases of fixed, uniquely interpreted or "idiomatic" Noun Compounds occur in the bound form of *smixut*, but not in the two separable versions. Thus, for instance: *bet xarόšet* 'house-of industry = factory', *xadar óxel* 'room-of food = dining room', *mxonat yəriya* 'machine-of shooting = machine-gun', *bney yisrael* 'children-of Israel = Israelites' will not have the same interpretation and/or will sound odd if split up by the genitive particle *šel* (see Section 7.2.1).

c) Quantifying determiners can generally take *smixut* form, but they, too, are restricted to the bound type; thus one gets *arbaat hayəladim* 'four-of the-children = the four children' but not **haarbaa šel hayəladim*; *alfey šanim* 'thousands-of years' but not **alafim šel šanim*, etc.

d) Certain nominalized forms of verbs occur only in the bound form, never in any other type of construction — for example: *xilufey* 'exchange (of prisoners, ideas, etc.)', *xilukey* 'difference (of opinion)', *xéker* 'study, exploration', *hasakat* 'concluding (conclusions)' — but the converse is not true, i.e., if a noun can be followed by *šel*, it can take the bound form, too. And this exclusively bound form is found, also, with prepositionals built up out of Preposition + Noun combinations, such as: *lifney* literally 'to-(the)-face-of = before', *mipney* 'from-(the)-face-of = because of', *al piy* 'on (the)-edge-of = according to'.

e) It is quite common for two nouns to be used so often in conjunction that, even where no fixed compound has resulted in the "idiomatic" sense discussed in Section 7.2.1 above, the bound form is the most unmarked or basic version of the three. Examples include: *xanut sfarim* 'store-of books = bookstore', *šulxan mitbax* 'table-of kitchen = kitchen table' and even *acey pri* 'trees-of fruit = fruit trees', which can be separated where need be, as in:

(50) (i) timca et ze be xanut šel sfarim
you will find OM it in (a) store of books

(ii) ata yaxol ləhištameš ba šulxan šel hamitbax
you can (to) use (in) the table of the kitchen

(iii) yeš lánu káma ecim šel perot bagina šelánu
we have several trees of fruit in garden of us

Such expressions may be frowned upon by normativists, but they are heard among native speakers in casual usage, and they serve to strengthen

both the claim we made at the outset of this chapter (with respect to the growing dominance of the free form with *šel* in everyday usage) and the seemingly contrary claim being made here: that in non-possessive genitives it is the bound form which is most basic (a claim which, as noted, accords with historical facts, also). Moreover, these "semi-fixed" forms may be separated by *šel*, but may not take the double form, as in **xanutam šel šfarim*, **šulxano šel hamitbax*, **aceyhem šel perot*.

All cases of possessive *smixut* – as discussed in the preceding section – are viewed as deriving from an underlying sentential construction of the form $\{N_x$ yeš lə-$N_y\}$, literally 'N_x is to N_y' in the sense of 'N_y has = owns, possesses N_x'. All other instances of *smixut* are likewise viewed as deriving from an appropriate sentential source, one which explicitly captures the semantic and syntactic relations holding between the two nominals associated together in a surface form of *smixut*. However, a considerable difference must be noted here: not only will the bound form constitute the most basic instance of *smixut* for all non-possessive genitives, but the latter may be derived from a wide variety of different types of propositions representing the considerable array of non-possessive relations which can theoretically obtain between two nominals – as outlined for English, for example, by Lees (1960).[7]

Below we attempt to formulate the processes involved in Genitive Formation in a way which seems to us best able to capture the peculiar inter-relationship between the three surface forms of the genitive as described at the outset of this chapter:

(51) Given a string of the form: $_N[\underset{1}{N}\ \underset{2}{NP}\ \underset{3}{X}]$

which uniquely defines the notion of a "compound noun," where element 3 may be zero, but elements 1 and 2 must be non-null, then the following processes will apply:

(i) Adjunct Copying: A copy of element 2 (the adjunct) is daughter-adjoined to the preceding N, element 1, as a kind of "affix" to yield, for instance: **xumrat macav macav* 'severity situation situation', **xanut basar basar* 'store meat meat', **lokxim šóxad šóxad* 'takers bribes bribes', **šuv sfinot sfinot* 'returning boats boats.

(ii) Copy Deletion: This copy of element 2 is then optionally deleted to yield the bound form of the genitive as in *xumrat hamacav* '(the)

severity of the situation', *xanut basar*, 'meat store', *lokxey šóxad* 'bribe-takers' or *šuv sfinot* 'the boats' returning'. This deletion is obligatory:

a) if element 1, the head element, does not have independent noun status in the lexicon – accounting for the fact that participial *benoni* forms and adjectives can occur only in the bound form of *smixut*, as in *lokxey šóxad* 'bribe-takers' or *arukat raglayim* 'long-(Fem)-of legs = long-legged';

or b) the expression is of the "semi-fixed" type illustrated in (50) above – accounting for the fact that a string such as *xanut basar* 'store (for) meat' or *šulxan mitbax* 'table (from or for the) kitchen' may undergo *šel*-insertion as described in (iv) below, but will not allow of double *smixut* with pronominalization of the adjunct-copy as described in (iii).

(iii) Copy Pronominalization: Just in case element 2 has **not** been deleted – i.e., (ii) above has not applied – its copy (derived by (i) above), may be pronominalized to yield, say, from **xumrat macav macav* – **xumrat + -o macav*. This pronominalization is obligatory just in case element 1 is a Gerund. That is, if the adjunct is not deleted by (ii), then a string like **šuv šuv sfinot* must undergo pronominalization to yield **šuv + -an sfinot*.

(iv) *šel* Insertion: The output of pronominalization of the copied adjunct – as described in (iii) above – will invariably be ungrammatical. Hence another process is required – that of Genitive Particle Insertion. By this process the particle *šel* is inserted between the adjunct NP element 2 and the immediately preceding constituent – either the head N element 1 or the pronominal copy of 2. The particle *šel* can thus be inserted in either instance: a) where (ii) above has applied, and the copy of element 2 has been deleted, so that instead of *xumrat (ha)macav* would be derived *(ha)xumra šel (ha)macav* and *xanut basar* could yield *xanut šel basar*; that is, the process of Particle Insertion may but need not follow the deletion of the Adjunct Copy (unless the head is a *benoni* or an Adjective); and b) where (iii) above has applied, and the copy of element 2 has been pronominalized, then *šel* insertion is obligatory, to yield, from **xumrato (ha)macav – xumrato šel (ha)macav*, and from **šuvan hasfinot – šuvan šel hasfinot*.

The processes outlined under (51) can thus be summed as follows:

(52) (i) ADJUNCT COPYING: ⇒ *xumrat macav macav
(ii) COPY DELETION: ⇒ xumrat macav
OR (iii) COPY PRONOMINALIZATION: ⇒ *xumrato macav
(iv) PARTICLE INSERTION: from (ii) xumra šel macav
from (iii) xumrato šel macav

We need to note certain further constraints – in addition to those mentioned under (51) with respect to: a) Gerund heads requiring either (ii) alone or a combination of (iii) **and** (iv); b) non-independent quasi-nominal forms, such as *benoni* verbals and adjectives, requiring (ii) alone to apply; and c) "semi-fixed" forms requiring either (ii) or (iv) but not (iii).

Firstly, various processes of Nominalization must take place before any kind of Genitive Formation rules apply. This requirement is necessary not only for the obvious reason that Genitive Formation can apply only to elements which are themselves "nominal," but also in order to ensure the appropriate surface ordering of elements. Compare, for instance:

(53) (i) dan bana báyit
Dan build house
AGENT VERB PATIENT
1 2 3

(ii) bniyat dan et habáyit
building Dan OM the house
2 1 3
'Dan's building/construction of the house'

(iii) bniyat báyit al ydey dan
building house by Dan
2 3 1
'the building/construction of (a) house by Dan'

The precise nature and implications of these permutations are discussed in more detail in Section 4.3, parts 3 and 4.

A related constraint applying in the case of nominalizations, and also noted in Chapter Four, is that where the head element 1 in (51) above is itself a *smixut* construction, then Genitive Formation must be blocked just in case element 3 bears the relation of Agent or Patient with respect to the head N. This constraint is necessary to block the formation of such expressions as **seruv dan (ha)hacaa* 'refusal-of Dan-of (the)-offer' where *seruv dan lahacaa* 'refusal-of Dan to-the-offer' is required; and to block, say, **dxiyat dan šel hahacaa* 'Dan's rejection of the offer' where *dxiyat*

dan et hahacaa is required. Note that the constraint does allow for *šel* insertion following a preceding *smixut* construction, so long as the relationship is not of one of Agent or Patient. Thus, *bniyat habáyit šel dan* 'building-of the-house of Dan' is well-formed just in case *dan* is interpreted as possessor with respect to *báyit* and not as Agent with respect to *bniyat*; similarly, the following is well-formed: *mitnagdey hamdiniyut šel hamemšala* 'opposers-of the-policy of the-government' as long as *memšala* is possessor with respect to *mdiniyut*, or even if *mitnagdey hamdiniyut* is possessor with respect to *memšala* (i.e., 'members of the government who oppose policy X'). (For more detailed discussion of these points, see Section 4.3, parts 3 and 4).

Another point which emerges with respect to the point made above is that Case Marking – as described in Section 4.4. – must follow the processes outlined in (51) and (52) above, and that a formal distinction must be drawn between the genitive particle *šel* and all other types of case-marking elements (prepositionals). That is, the occurrence of *šel* must be blocked in any context which permits a case-marking prepositional to be manifested. Thus, in case of nominalization, for example, a sentence such as *dan bana báyit* 'Dan built house' will yield, where the Object NP is definite, the surface *bniyat dan et habáyit* or *bniyat habáyit al ydey dan* with the prepositions *et* and *al ydey* marking Patient and Agent Case respectively.[8]

Finally, note that a special instance of double compounding is yielded when Copy Pronominalization is followed by Particle Insertion where the Adjunct NP is itself a pronominal. That is, from underlying *taut hu* 'error he' (in turn derived from *hu taa* 'he erred') the following surface possibilities emerge:

(54) (i) by Adjunct Copying: **taut hu hu* → [tauto hu]
(ii) by Copy Deletion: **taut hu* → [tauto]
(iii) by Copy Pronominalization: - - - - -
(iv) by Particle Insertion: **taut hu šel hu* → [tauto šelo]

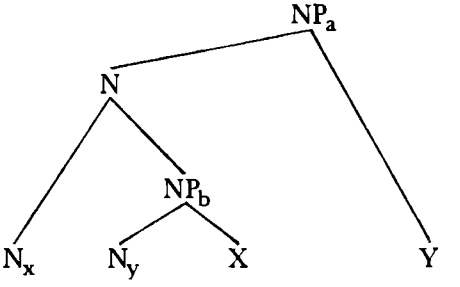
As is to be expected, the output of (ii), the normal or unmarked *tauto* 'his error', and the output of (iv), the double or emphatic *tauto šelo* 'his his error' in the sense of 'HIS error (and nobody else's)', are both well-formed, though not quite synonymous. In addition, however, as a kind of compensation perhaps for the non-applicability of pronominal copying to such a string – the output of (i) is uniquely well-formed, just in case the adjunct is itself a pronominal; thus *tauto hu* is quite possible, in the sense of 'his (own) mistake', but the latter is not possible under a possessive

interpretation. Thus, *sifri šeli* 'my book', but not **sifri ani.* Compare *maxšavti šeli* alongside of *maxšavti ani* 'my thought'.

7.7.3 The Process of Compounding

To conclude this section we review the motivations for considering Noun Compounds – specifically, cases of bound *smixut* constructions – as derived from underlying N structures by a process of adjunct copying to yield a surface structure of the following form (where N_x is the head, N_y the adjunct):

(55) THE SURFACE STRUCTURE OF NOUN COMPOUNDS



a) Bound *smixut* constructions are analyzed as unitary phonological phrases, even though a phonological word-boundary might intervene between N_x and N_y. Motivations for regarding the adjunct as a kind of non-enclitic "affix" are considered in Section 7.5, under the heading "Morphology."

b) From a syntactic point of view, modifiers of the adjunct N_y may be included within the domain of the dominating N – as signified by the node X in (55); but modifiers of the head N_x must lie outside this domain – as indicated by the node Y in (55). (For an explanation of this claim, see Section 7.6.) These constraints on modification are a consequence of the tree structure represented in (55): only NP contains an S-type modifier, though N can contain an NP modifier.

c) As discussed in Section 7.4, definiteness marking is attached to only one element of the Noun Compound – setting this construction apart from the requirement for definiteness marking on NP structures, *ha-* being attached to all non-sentential elements of the NP – both the head N and its modifying adjectives, determiners, etc. As *ha-* attaches to the adjunct rather than to the head N in a noun compound, we would need to

specify the following convention: "under an N node, *ha-* moves to the right-most element."

d) As we note in another context (Berman 1974), within a given NP, there is agreement between the head N and its non-sentential modifiers (determiners, adjectives) not only in Definiteness but for Gender and Number, too. This requirement does not apply to the relation between the head N of a compound and its modifying adjunct nominal (as illustrated in fn. 4), further strengthening our claim that the dominating node is a unitary N rather than NP.

e) One of the constraints on *smixut* formation noted above is the non-occurrence of modifiers of the adjunct N_Y just in case the head N_X itself is modified: that is, if Y in (55) is not zero, then X must be zero. This constraint would obviate the possibility of *smixut* reiteration were it not for the fact that when Y is not zero, then NP_b (exclusively dominating N) can itself constitute the head of a *smixut* construction. Such iteration of *smixut* formation under the node of N_Y is illustrated below:

(56) ITERATION OF *SMIXUT* FORMATION

$[\text{bniyat báyit}]_N$
building house = 'the building of a house'

$\left[\text{bniyat } [\text{bet dan}]_N\right]_N$
'building Dan's house

$\left[\text{bniyat}\left[[\text{bet } [\text{horey dan}]_N]_N\right]_N\right]_N$
'building Dan's parents' house'

$\left[\text{bniyat } \left[\text{bet } \left[\text{šxenat } [\text{horey dan}]_N\right]_N\right]_N\right]_N$
'building Dan's parents' neighbor's house'

7.8 SUMMING UP

An examination of Noun Compounds in Hebrew – taking the form of *smixut* constructions – reveals that they accord with a general notion of noun compounding as a process applying to superficially adjacent

nominals under an underlying N node. The underlying semantic-syntactic relations obtaining between the two elements so compounded can be accounted for by the assumption that in each case a surface contingency of N_xN_y is derived from an appropriate sentential source – illustrated above with respect to possessive-type propositions and different kinds of nominalizations.

Our examination also reveals certain language-specific properties of how these relations between two nominals are expressed in surface form: foremost among these is the threefold possibility of "bound," "separate," and "double" *smixut* constructions, as outlined in Section 7.1; the special nature of *smixut* constructions in which either the head or the adjunct or both are derived by nominalization of the kinds described in Section 7.2; and specific properties of pronominal compounding (Section 7.3), definiteness attachment (Section 7.4), and morphological alternations between "fixed" and "free" forms of nouns (Section 7.5).

A possible defect in this analysis is the quite different derivations proposed for possessive cases of *smixut* (Section 7.7.1) and all other instances of this construction. This runs counter to the accepted inclusion of possessive-type expressions within the overall category of "genitive"; and it fails to adequately account for the very obvious surface identity between their forms. (Compare, for instance: a) *bniyat habáyit šel dan* – *dan* being possessor with respect to *báyit*; and b) *bniyat habáyit al ydey dan* – *dan* being agent with respect to *bniyat*.) Yet this distinction seems well-motivated in terms of their different semantic interpretations, as well as on historical grounds. Moreover, in colloquial contemporary usage the separate form with the particle *šel* is very generally the normal or unmarked form of possessive expressions; yet where a non-possessive relationship is expressed, the bound form is in some sense "basic" – *inter alia*, because it is very often the only form actually used by the Hebrew speaker.

NOTES

[1] See, for example a) in Hebrew: Ornan 1964, Chapter 4, 124-168; Peretz 1965, 144-156; Rosen 1966, 127-179; and b) in English: Hayon 1969, 61-69, 111-126; Reif 1968; Ariel 1972b; Levi 1976b.

[2] Types (ii) and (iii) – the separate and double forms – represent later developments than type (i), which alone is typical of Biblical Hebrew.

[3] Rosen claims that in addition to the instance of the [+HUMAN] adjunct, the use of *šel* serves to distinguish alienable from inalienable possession, the latter requiring the bound form, without *šel*. Although Rosen gives specific examples to substantiate his claim, his distinction does not seem to accord with my native informants' perceptions of how they use and interpret free as against bound forms.

Ornan, basing his claims on statistical evidence taken from the written language (including the daily press), considers the bound form to be the normal, most general usage. (This, incidentally, accords with his conception of Biblical Hebrew as being the main source for contemporary usage.) He lists 12 instances in which the later Mishnaic form with the particle *šel* will be more likely; and then, under item 13 (p. 122), he himself notes that "the spoken language is remarkable for its preference of the separate ("free," R. B.) form of the possessive pronoun." Ornan also notes that the free form with *šel* is most common with kinship terms and with nouns referring to parts of the body, but he is not prepared to take normal spoken usage as the basis of his description in the absence of frequency counts based on extensive data gathering.

[4] From the point of view of agreement rules between the various elements within the NP, the prefixal definite marker *ha-* is assigned along much the same lines as the suffixal plural marker *-im* (for masculine) or *-ot* (for feminine) (see Berman 1974). However, plural marking can be assigned to either or both of the elements in a genitive compound, yielding all four logical possibilities (with respect to nouns which are countable), as shown below:

(i) klipat tapuz
peel-of (an)-orange
(ii) klipat tapuzim
peel-of oranges
} 'orange peel'

(iii) klipot tapuz
peels-of (an)orange
(iv) klipot tapuzim
peels-of oranges
} 'orange peels'

That is, even in the bound form – unlike the case with noun compounds in a language like English – both head and adjunct can be either singular or plural, a "freedom" which does not apply to definiteness marking, however.

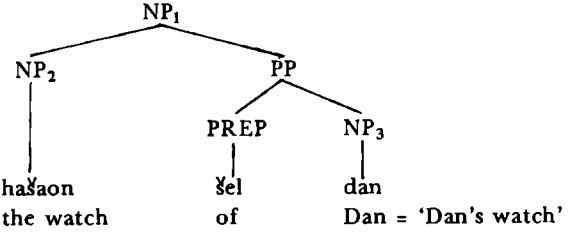
[5] This requirement is in line with certain more general constraints on conjoining in Hebrew, a topic which as far as I am aware has not received attention in the literature (though a dissertation is now being written on the subject by Z. Doron for Hebrew University, Jerusalem). Thus:

(i) a.	*hu	caak	al		vecaxak	midina
	he	shouted	on	(=at)	and laughed	from (=at) Dina
b.	hu	caak	al	dina	vecaxak	mimena
	he	shouted	at	Dina	and laughed	at her

The inadmissibility of (a) and the requirement that the conjunct NP be repeated by a pronominal copy may be due to the more general constraint on "dangling" prepositions in Hebrew, however. Compare the well-formed (b) with the dubious (a):

(ii) a.	(?)david	paras	vedina	marxa	et	haléxem
	David	sliced	and Dina	buttered	OM	the bread
b.	david	paras	et	hāléxem	vedina	marxa	oto
	David	sliced	OM	the bread	and Dina	buttered	it

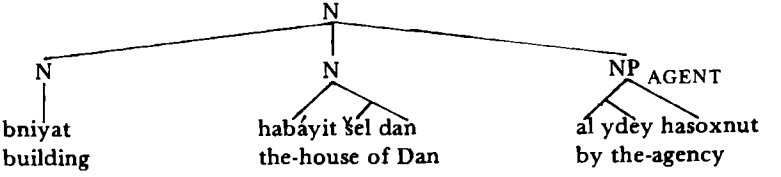
[6] This analysis is essentially consistent with that proposed by Hayon (1971, 54-56) for all instances of *smixut*. Ariel (1972b) argues against this analysis, providing a wide array of semantic and distributional evidence in support of his claim that possessive *šel* should be derived from a structure such as the following:



[7] This claim is briefly illustrated below, where the examples in (i) represent fixed, inseparable Noun Compounds of the "idiomatic" type – considered in Section 7.2.1; those in (ii) are of the conventionally bound but potentially separable type noted in (50) above; and those in (iii) represent different kinds of quasi-nominals of the type considered in Section 7.2.2 of this chapter:

(i) a. šivat ciyon return Zion 'the return to Zion'	N_x represents the process, state or time of an unspecified agent (the children of Israel) returning to the location or destiny of Zion = N_y
b. mxonat yeriya machine shooting 'machine gun'	N_x represents the instrument used by people in the act of or for the purpose of shooting = N_y
c. xadar oxel room food 'dining room'	N_x represents the place used by people in the act of or for the purpose of consuming or serving food = N_y
(ii) a. xanut basar store meat 'meat store'	N_x represents a place where people sell or to which people go to buy meat = N_y
b. aron bgadim closet clothes 'wardrobe'	N_x represents an object (piece of furniture) which is used for the purpose of and which is the place in which people keep clothes = N_y
c. batey éven houses stone 'stone houses'	N_x represents an object (building) which is made out of the material of stone = N_y
(iii) a. xumrat hamacav severity the-situation 'the severity of the situation'	N_x represents a nominalized version of a predicative adjective in a copula-type proposition which is saying something about the situation = N_y
b. xakirat hašoter interrogation the-policeman 'the interrogation of the policeman'	N_x represents a nominalized version of the verb describing the process experienced by the policeman = N_y as patient or perpetrated by the policeman = N_y as agent upon some unspecified patient
c. lokxey šóxad takers bribe 'people taking/who take bribes'	N_x represents the agent of the action described by the verb with respect to the object bribes = N_y

[8] Consider, for instance, the derivation of a surface form of the following kind:



'the building of Dan's house by the agency'

Such an expression would be derived from an underlying structure of the following type:

$$S_1\Big[\text{hasoxnut } \Big\{\begin{matrix}\text{b–n–y}\\ \text{B-1}\end{matrix}\Big\} \; N_a\big[\text{bayit} \quad S_2[\text{báyit yeš ledan}]\big]\Big]$$

the-agency build house — house is to-Dan

(i) S_2 would be embedded inside N_a by a process of Possessive-*smixut* Formation, as outlined in Section 7.7.1 above, to yield:

$$S_2\Big[\text{hasoxnut } \Big\{\begin{matrix}\text{b–n–y}\\ \text{B-1}\end{matrix}\Big\} \; N[\text{báyit šel dan}]\Big]$$

(ii) Nominalization and obligatory Verb Fronting would then yield:

$$N\Big[\text{bniyat hasoxnut } N[\text{báyit šel dan}]\Big]$$

(iii) The output of (ii) forms the basis for the well-formed string represented below, following Compounding (Genitive Formation):

$$N\Big[\text{bniyat hasoxnut } N[\text{et habáyit šel dan}]\Big]$$

(iv) However, the output of (ii) may optionally undergo Patient Fronting to yield:

$$N\Big[\text{bniyat } NP[\text{habáyit šel dan}] \text{ hasoxnut}\Big]$$

In turn, this is the basis for the string represented in the tree-diagram at the outset of this note, following Genitive Formation and Case-Marking, as outlined in the text:

$$N\Big[N[\text{bniyat}] \; \overline{N[\text{habáyit šel dan}]} \; NP[\text{al ydey hasoxnut}]\Big]$$

8 NOMINALIZATION

8.1 TYPES OF NOMINALIZATION

The chapters which follow are concerned with various types of nominalizations in Modern Hebrew — in the sense of the process whereby an embedded S is transformed into a nominal phrase, the head of which will generally be a nominalized version of an underlying verb. The types of constructions to be considered are illustrated below, where (a) represents the underlying S, and (b) the derived nominal expression. Note that in these examples, the verb in the base sentence is represented as a combination of Root + Pattern, where B-n stands for a given *binyan* (verb-conjugation) pattern, as explained in Section 3.3.1.

(1) INFINITIVES:

(i) a. dan {g-m-r +B-1} et haavoda
Dan finish OM the work

b. dan raca ligmor et haavoda
Dan wanted to finish OM the work

(ii) a. ánu nigmor et haavoda
we will finish OM the work

b. ligmor et haavoda ze xašuv lánu
to finish OM the work it (is) important for us

(2) GERUNDS:

(i) a. dan { g-m-r +B-l } et haavoda

b. bigmor dan et haavoda hu šav habáyta
on finishing Dan OM the work, he returned home
'on Dan's finishing work, he returned home'

(ii) a. hu { š–w–b +B-l } habáyta
he return home

b. ánu məxakim ləšuvo habáyta
we are waiting for returning his home
'we're waiting for his returning home'

(3) ABSTRACT NOMINALS, VERB-DERIVED = V-NOM:

(i) a. dan { g-m-r + B-l } et haavoda

b. gmirat dan et haavoda garma lo sipuk
finishing Dan OM the work gave him satisfaction
'Dan's completion of the job gave him satisfaction'

(ii) a. hu šav habáyta
he returned home

b. samáxnu lišmóa al šivato habáyta
we were pleased to hear about return his home
'we were pleased to hear about his return home'

(4) ABSTRACT NOMINALS, ADJECTIVE-DERIVED = A-NOM:

(i) a. hu axrai lamaase
he (is) responsible for the deed

b. axrayuto lamaase brura ləxulam
responsibility his for the deed (is) clear to all

(ii) a. hem hodíu lánu al (kax) še hamacav xamur
they informed us about (it) that the situation (is) severe

b. hem hodíu lánu al xumrat hamacav
they informed us about severity of the situation

(5) AGENT NOUNS

(i) a. hu mnahel et hamisrad biyəilut
he manages OM the office with efficiency = 'efficiently'

b. hu mnahel yail šel hamisrad
he (is) (a) manager efficient of the office
'he is an efficient manager of the office'

(ii) a. hem ovdim banamel
they work in the port

b. hem ovdey namel
they (are) workers of port = 'port-workers'

Nominals of the last type, Agent Nouns, lose all trace other than morphological form of their verbal origin when they function as nouns. The four other types of nominals – Infinitives, Gerunds, V-Nom, A-Nom – are uniquely characterizable in that while they assume certain clearly nominal characteristics (of the sort noted in Section 8.2 below) as a result of the process of nominalization, they still retain clear traces of their syntactically verbal source – for example, the same underlying Subject NP and the same kind of complement structures. Moreover, with the exception of Infinitives, which, as is to be expected, have no overt Subject NP associated with them in surface structure, all other nominalizations (Gerunds, V-Noms, and A-Noms) require a permutation of the Subject NP and the underlying Verb – for the nominal in each case is followed rather than preceded by its underlying Subject NP (as shown in (6) below).

Another very general characteristic of nominal expressions with Infinitives, Gerunds, V-Noms, or A-Noms is the following: they can quite regularly be related to finite Noun Clauses of the form *še-* + S, where the subordinate *še-* (or its variant *kiy*) performs much the same function as English "that." This correspondence is overtly demonstrated in (4-ii) above, but it can be extended to the other nominals also, as in the (b) sentences below:

(6) (i) a. xašuv lánu ligmor et haavoda bazman
(it is) important for us to finish OM the work on time

b. xašuv lánu šenigmor et haavoda bazman
(it is) important for us that we finish OM the work on time

(ii) a. ləaxar gmor dan et haavoda
after finishing Dan OM the work

b. ləaxar šedan gamar et haavoda
after that Dan finished OM the work

(iii) a. samáxnu lišmóa al šivato habáyta
we were pleased to hear about return his hóme

b. samáxnu lišmóa al (ze) šehu šav habáyta
we were pleased to hear about (it) that he returned home

(iv) a. axrayuto lamaase brura ləxulam
responsibility his for the deed (is) clear to all

b. šehu axrai lamaase (ze) barur ləxulam
that he (is) responsible for the deed (it) (is) clear to all

8.2 SCALE OF NOMINALNESS

In another context (see Berman 1973, 12-56), we attempted to establish explicit and formal criteria for classifying lexical items on a scale of verbness and nounness, in terms of such properties as the following: Morphological Form, Inherent and Associated Syntactic features, Types of Complements, Types of Modifiers, and Negation. Our findings can be very briefly summed up as follows:

a) Morphological Form: The association of a given *binyan* pattern (as discussed in Section 3.3.1) is a necessary but not sufficient condition for assigning a given item to the major lexical category of Verb.

b) Inherent Syntactic Features (i.e., features which are associated with a given item as part of its lexical entry): Verbs are inherently marked as plus or minus Stative, where [-STATIVE] = [+ACTIVE]; Nouns are inherently marked for such features as Common/Proper, Animate/Inanimate, Human/Non-Human, Concrete/Abstract, etc. – corresponding roughly to properties of the kind which Chomsky termed "subcategorization features" (1965, 79-83). Moreover, all [-ANIMATE]nouns have an inherent value for the feature of Gender, being either plus or minus Masculine.

c) Associated Syntactic Features (i.e., features which are associated with the dominating phrasal node, from which they are copied onto the head V or N): Any VP, and hence any V, will have associated with it a given value for the category of Tense (as described in Section 5.6) within a given syntactic configuration, though verbs as such are neutral with

respect to Tense in terms of their lexical entries; Nouns will have associated with them – again, in their occurrence within given syntactic configurations rather than in the lexicon itself – appropriate values for the features of: Gender, Number, Person, Definiteness, Case, and Reference (notions which are discussed in more detail in other parts of this book).

d) Complement Structures: All verbs other than the few absolute intransitives (i.e., verbs which can occur as the sole elements of VP, as noted in Lees and Klima 1963) will receive one or more of the following kinds of surface-structure complements: (i) *et* + NP, (ii) Prep + NP, (iii) an Infinitival Phrase, (iv) a Noun Clause subordinated by *še-* 'that'. Nouns typically do not take complements of this kind.

e) Modification: Verbs are most typically modified by the traditional Adverbial categories of Time and Place – and quite uniquely by expressions of Manner (adjectives being typically modified by expressions of Degree). Nouns, in contrast, are modified by various kinds of Determiners – most particularly by Quantifiers – Relative Clauses, and by Adjectives of two kinds: denominative adjectives such as *xuki* 'legal' from *xok* 'law' or *memšalti* 'governmental' from *memšala* 'government', or adjectives which are morphologically and semantically related to manner-adverbs, such as *tov* 'good'/*hetev* 'well', *mahir* 'quick'/*maher* 'quickly', *yail* 'efficient'/biyə ilut 'with-efficiency = efficiently'.

f) Negation: Predicative Elements – Verbs and Adjectives – are negated by the unmarked negative operator *lo*, which alternates with *eyn* in the Present Tense and with *al* in the Imperative. All and only derived abstract nominals of the types labelled V-Nom and A-Nom in the preceding section are negated by prefixal *iy-*, thus: *dan lo yada* 'Dan (did)-not know' / *iy-yədiat dan* 'not-knowing-of Dan', *dan lo batúax* 'Dan (is)-not secure' / *iy-habitaxon šel dan* 'the-insecurity of Dan'.

We further established that the syntactic processes manifested by the *binyan* system – such as Transitivity, Passiveness, Causativeness, Reflexiveness, Reciprocality, Inchoativeness, and Ingressiveness – are uniquely associated with elements occurring under the node V in deep-structure, all and only verbs being potentially capable of undergoing the morphological changes of *binyan* pattern incurred by the operation of such processes (for a fuller examination of these processes, see Berman 1973, Chapter 3; Berman 1975c; Ariel 1971, 1972b).

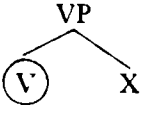
Finally, as a crucial criterion for associating a given element with the

category of Noun, we investigated the operation of *smixut*-type genitive constructions and noun-compounding (as summarized in Section 7.2.2). All and only elements which have some "nominal" characteristics are able to constitute the head-element of a "bound" type of *smixut* construction; conversely, all and only "true nouns," in the sense of elements belonging to the independent lexical category N, are able to function as either the head or the adjunct element in all three kinds of *smixut* constructions considered in Chapter Seven: the "bound," the "free" or "separate," and the "double" pronominalized type of genitives.

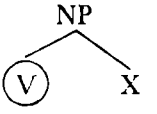
Our analysis of the five types of nominalized forms illustrated in (1) through (5) above in relation to the set of criteria just outlined enabled us to characterize these nominals on an ascending scale of "nounness" as follows, where the encircled element is the nominal in question and X represents any unspecified complement, including zero:

(7) SCALE OF NOMINALITY OF DERIVED NOUNS

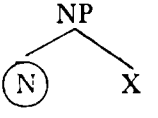
(i) INFINITIVES:



(ii) GERUNDS:

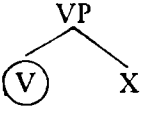


(iii) ABSTRACT NOMS (V-NOM, A-NOM):

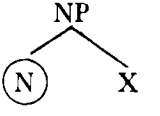


(iv) *benoni* FORMS:

a)



b)



The diagrams above represent the surface structures derived from underlying S constructions: (i) shows that Infinitives are essentially verbal elements, and as such they are represented as the verbal heads of VP's; (ii) shows that Gerunds retain their verbal characteristics, but they figure as the verbal heads of nominal expressions, and are thus represented as more nominal than their infinitival counterparts; (iii) the abstract nominals

which we denote as V-Nom and A-Nom are essentially noun-like forms, and as such they constitute the nominal heads of NP's; finally, (iv) represents a syntactic split between two types of *benoni* forms, despite their morphological identity and semantic relatedness: (a) is the verbal *benoni* as described in Sections 5.1 and 5.3, while (b) is the nominal type of *benoni* functioning quite generally as an Agent Noun which retains few if any syntactic traces of its assumedly verbal source (see Chapter Eleven, particularly Section 11.3).

In the chapters which follow we attempt to motivate the above scaling as we analyse each type of nominal in turn.

8.3 SCOPE OF DISCUSSION

Our main concern here is with the description of contemporary Hebrew rather than with questions of general linguistic theory, and we thus deliberately evade several important issues in the general area of "nominalization" which have concerned linguists over the past 15 years or so. Thus, for instance, we do not provide any detailed account of the nature of Infinitival constructions in general – particularly with respect to how these function in verb complementation.[1] Rather, we attempt to motivate our departure from traditional studies of what is termed *šem hapóal* 'the verbal noun' or *hamakor hanatuy* 'the inflected infinitive', for we treat the Infinitive and the Gerund as two distinct, though related, types of constructions and not as a unitary element as is generally done (see Section 9.1). Similarly, in discussing abstract nominals and the problem of "derived nominals" in Modern Hebrew, we try to avoid the lexicalist-transformationalist controversy of the late sixties and early seventies.[2] Instead, we aim to show how the traditional view of the so-called *šem pəula* 'Action Noun' in Hebrew fails to capture certain important features of this construction, partly because the accepted yardstick is too often morphological rather than semantic and syntactic, and where semantic properties are considered, their syntactic correlates are generally disregarded (see Section 10.2). Further, in analyzing Agent Nouns, we consider two aspects of the issue which are generally treated quite separately in Hebrew grammars: a) the nominal function and properties of *benoni* verbals in general (see Section 5.2), and b) the class of nouns which include both *benoni* and other morphological forms, generally characterized as "occupations" or "traits" (see Section 11.4), and we try to establish some viable specification of the notion "Agent Noun" in Hebrew in general.

Finally, it should be noted that the forms referred to in the preceding paragraph and illustrated in (1) through (5) of this chapter – Infinitives, Gerunds, V-Nom, A-Nom, and Agent Nouns – exclude the vast majority of nouns in the Hebrew lexicon, most of which can be viewed as "related to verbs" in the sense that they a) share the same consonantal root, and b) have certain semantic properties in common. Thus, in the following paradigm, those on the right are all nouns in the morphological category of "segolates":[3]

(8)

ROOT	VERB		NOUN	
m–l–k★	malax	'rule, reign'	mélex	'king'
y-l-d	yalad	'give birth'	yéled	'child'
t-p-r	tafar	'sew'	téfer	'stitch, seam'
d-r-k	darax	'step, tread'	dérex	'way, path'

★Note: Alternations between the stops *b, p,* and *k* of the root fricatives *v, f,* and *x*, respectively, are morphophonologically conditioned.

Such forms as those in the Noun column above cannot really be viewed as sententially "derived" nominals, in the sense that their relationship to any member of a given group of verbal counterparts is quite idiosyncratic and unpredictable, constituting part of the *ad hoc* lexical information which the Hebrew speaker has at his disposal. We noted a related problem in an earlier chapter when commenting on the anomalies of the relationships within and between nouns sharing the same root in different *miškal* patterns (see Section 3.3.3). Here we further note the anomalous relationship between verbs and their various related yet "non-derived" noun forms. Below we illustrate this point with reference to the roots k–t–b and s–p–r, roughly 'write' and 'tell, count', respectively; for the root k–t–b we consider only tbe B-1 conjugation *katav* and disregard such forms as B-4 *hitkatev* 'correspond, write letters to' and B-5 *hixtiv* 'dictate'; for the root s–p–r we list forms related to B-1 *safar* 'count' and B-3 *siper* 'tell, narrate', but disregard the latter in the homonymous but unrelated sense of 'cut (hair)' – and hence we do not list such nouns as *sapar* 'barber' or *mispara* 'barbershop'.

(9)

	B-1 k–t–b	B-1 s–p–r	B-3 s–p–r
INFIN.	lixtov 'to write'	lisfor 'to count'	ləsaper 'to tell'
GERUND	ktov 'writing'	sfor 'counting'	saper 'telling'
V-NOM	ktiva '(act of) writing'	sfira '(act of) counting'	sipur 'story, narration'
BENONI-AGENT	- - -	sofer 'writer, scribe'	məsaper 'narrator'
CaCaC	katav 'reporter'	- - -	
CaCaCa	katava 'report, write-up'	- - -	
CéCeC	- - -	sé́fer 'book'	
CiCCiya	- - -	sifriya 'library'	
CaCCan	katvan 'stenographer'	safran 'librarian'	
CaCCanut	katvanut 'stenography'	safranut 'librarianship'	
CCaC	ktav 'handwriting'	- - -	
CCiC	ktiv 'orthography'	- - -	
CiCCut	- - -	sifrut 'literature'	
C(i)CóCet	któvet 'address, inscription'	sipóret 'fiction'	
miCCaCa	mixtava '(writing) desk'	- - -	

The (non-exhaustive) listing in (9) shows that for a given verb root the lexicon may contain nouns within the relatively restricted set of possible *miškal* morphological patterns, some of which are listed on the

left of (9) – e.g., CaCaC, which includes not only *katav* 'reporter', but *ganav* 'thief', *tabax* 'cook', etc. The listing in (9) also shows that any given verb root need not have related nouns in all of the *miškal* patterns – the choice of which happens to be used is arbitrary, as are the gaps. Moreover, the precise semantic interpretation of a given verb-related noun is **not** automatically derivable by a combination of Meaning of Root + Meaning of pattern (*miškal*). The question of how such verb-related nouns might be characterized in a formal grammar is briefly considered in Chapter Eleven.

NOTES

[1] A detailed distributional description of verb complements in Hebrew is provided by Rubinstein's study of Hebrew verb phrases (1971); two rather more theoretically-oriented discussions of complementation in Hebrew are provided by the dissertations of Sadka (1974) and Malisdorf (1975). For studies of English verb complementation, see Rosenbaum's classic work (1967). Bresnan's criticisms thereof (1970, 1972), and the survey provided by the UCLA project on syntax (Stockwell *et al.* 1973, Chapter 8).

[2] In syntax, this controversy has centered largely around the specific issue of nominalization: Should "derived nominals" be listed separately as independent nouns in the lexicon, with the morphological, syntactic, and semantic properties they share with their related verbs being indicated together with the idiosyncractic properties of the nominal form, as advocated by the "lexicalist" view; or should such nominals invariably be regarded as the product of a process of nominalization, in the sense of the transformation of a sentential base-structure to an NP, as advocated by the "transformationalist" view? The main arguments favoring the lexicalist position are put forward by Chomsky (1970), and a similar position is adopted by Schwartz (1970), by the UCLA syntax project (Stockwell *et al.* 1973, 1-8, 505-08), and by Ray Jackendoff (see, for instance, Jackendoff 1975). A transformationalist view is posited in the earlier works of Lees (1960, 64-72), Katz and Postal (1964, 124-145), and Lakoff (1965, Appendix V, V-13-16), as well as in later articles by Bowers (1969), Fraser (1970), and Newmayer (1971a,b). A comparison of the two views of nominalizations is provided by Wasow and Roeper (1972), and, in terms of general semantic theory, by Fodor *et al.* (1974, 197-202).

[3] The term "segolates," derived from the word "segol" standing for the vowel-sound *e*, is the traditional name of the class of nouns related to an underlying CVCC and manifested on the surface as CeCeC, with penultimate word-stress.

9 VERBAL NOUNS (GERUNDS)

9.1 DISTINCTION BETWEEN INFINITIVES AND GERUNDS

This chapter is concerned with the category traditionally termed *šem póal* 'verbal noun' or *makor natuy* 'construct (literally "inflected") infinitive' in Hebrew grammar.[1] In most traditional studies of Hebrew including that of contemporary grammarians, this category subsumes under a single heading two types of constructions which we consider quite distinctly:[2] the Infinitive and the Gerund.[3] Below we attempt to motivate this distinction.

9.1.1 Morphological Pattern

From a morphological point of view, the two constructions seem to warrant uniform treatment, both being based on the Future Tense stem of a given verb (i.e., of a given combination of Root + *binyan* as explained in fn. 1 to Chapter Five). Moreover, all and only these forms manifest the special ending *-ot* in verbs with the underlying final root consonant /y/. Thus:

(1) FORM OF *ŠEM HAPÓAL*

binyan	Regular Roots		Root Final /y/	
B-1	CCoC	*stom* 'block'	CCot	*bnot* 'build'
B-2	hiCaCeC	*hisatem* 'be blocked'	hiCaCot	*hibanot* 'be built'
B-3	CaCeC	*gadel* 'grow'	CaCot	*nasot* 'try'
B-4	hitCaCeC	*hitgadel* 'aggrandize'	hitCaCot	*hitnasot* 'experience'
B-5	haCCic	*hagdil* 'magnify'	haCCot	*haglot* 'exile'

Even morphologically, however, the two types of *šem póal* do evidence certain differences. For example, stops that are fricativized in certain environments will undergo this change when they are the medial root consonant in a Gerund, but not in an Infinitive. Compare: [lispor] 'to-count' / [bisfor] 'on-counting'; [lirkoš] 'to-acquire' / [kirəxoš] 'while-acquiring'. Moreover, in the case of at least one verb-root, the medial vowel is different. Thus for the root m–w–t 'die', *lamut* 'to-die' contrasts with *bəmot* 'on-(the)-dying-(of)'.

Our motivation for distinguishing Infinitives from Gerunds is, however, primarily syntactic, as we try to show below.

9.1.2 Syntactic Function

Firstly, from the point of view of the syntactic function of Infinitival as against Gerundive Phrases, the former typically constitute part of the "nuclear constituents" of a given sentence – as the complement of a verb or adjective or as surface subject; in its most typical function the Gerund, however, functions in an "extra-nuclear" constituent,[4] as illustrated below:

(2) SYNTACTIC FUNCTIONS OF INFINITIVAL PHRASES

(i) Verb Complementation

a. dan raca ləkabel et hatafkid
Dan wanted to get OM the job [OM = Object Marker]

b. xaverav šixnəu et dan ləkabel et hatafkid
his friends persuaded OM Dan to take OM the job

c. hayəladim nisu liftóax et hakufsa
the children tried to open OM the box

d. hu note ləzalzel bazulat
he tends to despise (to)the other person

(ii) Adjective Complementation

a. kday (ləxa) ləkabel et hatafkid
(it's)worthwhile (for you) to take OM the job

b. asur (lanosim) ləašen baotobus
(it's)forbidden (for passengers) to smoke on the bus

c. naim ləhimace bimxicato
(it's)nice to be in his company

(iii) Surface Subject

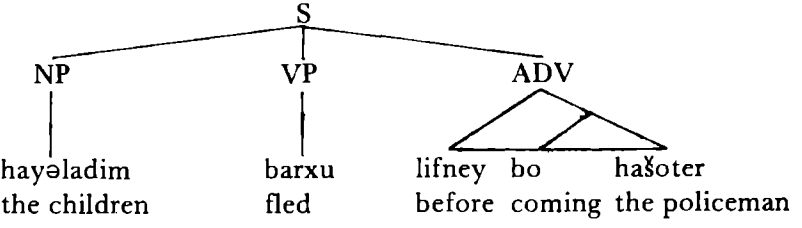
a. ləkabel et hatafkid (ze) yihye ləxa kday
to take OM the job (it) will be for you worthwhile

b. ləašen baotobus zo avera
to smoke on the bus it(is a)transgression

c. ləhimace bimxicato gorem li taanug
to be(=find myself) in his company causes me pleasure

The Gerund, on the other hand, most typically occurs in sentence-modifying adverbials lying outside of Subject and Predicate, as in the structure depicted below:

(3)



'the children fled before the policeman's coming'

Examples of such constructions are given below, the Gerundive Phrase being underlined each time.

(4) (i) a. kol hanosim nivdəku lifney alotam
all the passengers were checked before ascending their
lamatos
to the plane
'all the passengers were checked before boarding the plane'

b. lifney alotam lamatos nivdəku kol hanosim

(ii) a. hu azav et hamakom ləaxar hikanes xavero latafkid
he left OM the place after entering friend his to the job
'he left the place after his friend's entering the job'

b. ləaxar hikanes xavero latafkid hu azav et hamakom

(iii) a. hamnahel kibel harbe matanot im saymo
the director got many gifts with(=on) completing
et šeruto
OM his service

b. im saymo et šeruto kibel hamnahel harbe matanot

(iv) a. kol hanosim nispu bəhitrasek hamatos
all the passengers were killed in(a)crashing of the plane
meal laalpim
over the Alps

b. bəhitrasek hamatos meal laalpim nispu kol hanosim

A comparison of (2) and (4) above shows a crucial distinction between the types of syntactic function assigned to Infinitivals and Gerundives, respectively. Moreover, the internal structure of these two types of expressions differs quite crucially. Infinitival Phrases typically have the internal structure of a normal VP, with no overt Subject and with precisely the same *nivdəku kol hanosim*), is a corollary of this preposing of the modifying element (see Section 5.2.6).

9.1.3 Internal Phrasal Construction

A comparison of (2) and (4) above shows a crucial distinction between the types of syntactic function assigned to Infinitivals and Gerundives, respectively. Moreover, the internal structure of these two types of expressions differs quite crucially. Infinitival Phrases typically have the internal structure of a normal VP, with no overt Subject and with precisely the same complements and modifiers as any finite verb. Thus, for instance, by the

well-documented process of Equi-NP Deletion (see for example, Rosenbaum 1967, 6 ff., and Postal 1970b, Sections I, II), the Subject of the Main Verb *raca* is the underlying Subject of the Infinitive *ləkabel* in (2-i,a) above – *dan raca ləkabel et hatafkid*, while in (2-i,b), it is the Object of the Main Verb that is also the Subject of the Infinitive – *xaverav šixnəu et dan ləkabel et hatafkid*. And the infinitival form is marked by the special prefix *l-*, whose vowel quality is phonologically and morphologically determined.[5] In other words, the surface form of infinitival phrases is as follows: [*lə-* + INF + X], where *lə-* stands for the enclitically prefixed infinitival marker (see fn. 5);[6] INF is the infinitival form of the underlying verb, in the sense of Root + *binyan* Pattern; and X stands for any complement of the underlying verb, including zero.

The internal structure of gerundive phrases is constrained in quite different ways, and it may be typically represented as follows:

(5) INTERNAL STRUCTURE OF ADVERBIAL GERUNDIVE PHRASE

	[Prep +	V-Gerund +	NP_x +	X]
a.	bə-	rédet	haxašexa	
	on	falling	darkness	
b.	im	sayem	hamnahel	et tafkido
	with	completing	the manager	OM his job
c.	ləaxar	alot	-am	lamatos
	after	embarking	they	on the plane
d.	lifney	šuv	-énu	habáyta
	before	returning	our	home

The examples in (5) can be rendered as follows in English: (a) 'on darkness falling'; (b) 'with the manager completing his job'; (c) 'after their embarking on the plane'; and (d) 'before our returning home'. The structure represented in (5) characterizes the internal composition of gerundive phrases functioning in a sentence-modifying adverbial capacity, as illustrated in (4) above. This is the most typical or unmarked function of gerundives in Modern Hebrew, as we shall see in the following sections of this chapter, and it takes the surface form of a Prepositional Phrase.

The initial preposition may be either enclitically attached to the gerund, as in the case of *bə-* in (5-a), or it may constitute a separate word, as in the case of *im, ləaxar*, and *lifney* in the other examples in (5). But the nature of this prepositional element sets the Gerund clearly apart from the Infinitive. The latter, as we have noted, is preceded by a special marker *lə-*, which has a surface resemblance to the ordinary prepositional

lə- 'to' (see fn. 5). Gerunds, on the other hand, can be preceded by any preposition, on condition that it has a **temporal** interpretation – such as *bə-* 'on' or *im* 'with' in the sense of co-occurrence, *ad* 'until', *ləaxar* 'after', *lifney* 'before', etc.[7]

Perhaps the most interesting feature of Hebrew gerunds is indicated by the constituent NP_x in (5) above: it represents the Subject of the verb from which the gerund is derived in an underlying sentence-type structure, and it indicates that the Hebrew gerund **must** be followed by an overt Subject. Again, this NP_x may take the form of a regular or independent NP as in examples (a) and (b) of (5), or it may take the form of a pronominal, which is enclitically suffixed to the gerund, yielding from *hem alu* 'they embarked' *alot+am* in (5-c) and from *ánu šavim* 'we return' *šuv+énu* in (5-d). Here, then, is one very basic difference between Infinitives and Gerunds in Hebrew.

Finally, the element X in (5) above, representing the complements of the underlying verb, takes the same form as ordinary verb complements, that is, as in the case of Infinitival Phrases, so too with Gerundives: the underlying verbal complement is retained intact under nominalizations of the kind discussed here.

The crucial difference between Infinitives and Gerunds is very clearly evident when one considers the types of pronominal suffixes which attach to the two kinds of structures. Even if the surface shape is identical, as in examples (a) and (b) below, the deep structure is quite distinct: {INF + PRO} derives from an underlying Verb + Object; {GER + PRO} derives from an underlying Subject + Verb. Thus:

(6) (i) *sayem* 'complete' + 3rd Masc,Sg
ləsaymo 'to complete him(=it)' ≠ *bəsaymo* 'on his completing'

(ii) *sgor* 'close' + 3rd Fem,Sg
ləsogra 'to close her(=it)' ≠ *bəsogra* 'on her closing'

(iii) *hasgir* 'disclose' + 1st Sg
ləhasgiréni 'to disclose me' ≠ *bəhasgiri* 'on my disclosing'

The examples in (6) can be explicated as follows:

(7) (i) a. ləsaymo ⇐ X s–y–m oto
X complete OM it(Masc)

b. bəsaymo ⇐ hu s–y–m X
he complete X

(ii) a. ləsogra ⇐ X s–g–r ota
X close OM it(Fem)

b. ləsogra ⇐ hi s–g–r X
she close X

(iii) a. ləhasgiréni ⇐ X h–s–g–r oti
X disclose OM me

b. bəhasgiri ⇐ ani h–s–g–r X
I disclose X

Moreover, every combination of {PRO (Subject) + VERB} must, under gerundivization, take a form of the type illustrated above: Gerund followed by Suffixed Pronominal. Not so in the case of the Infinitive: here, the pronominal can be suffixed to the infinitival form of the verb just in case the latter takes a "direct object" – i.e., an NP (including a Pronoun) which can take the Accusative Marker *et* (see Section 4.3). That is, the instances of Inf + Pron are restricted to a certain sub-class of verbs, whereas the instances of Ger + Pron are required wherever the underlying Subject is pronominal. Most importantly, however, the infinitive is pronominally inflected like a verb, the gerund like a noun.[8]

Finally, the diachronic development of these two types of constructions – Infinitive and Gerund – has been rather different. Both figured alongside of one another in Biblical Hebrew; in Mishnaic Hebrew, however, the Gerund fell into almost complete disuse, its place being taken by a nominal construction which was relatively rare in Biblical Hebrew: the *šem pəula* or "Action Noun" (discussed in more detail in Chapter Ten). In Modern Hebrew all three constructions exist side by side, the Mishnaic *šem pəula* being very generally used as an abstract nominal, but the Gerund also figuring in a rather more restricted set of contexts, most particularly in a sentence-modifying, temporal adverbial capacity. These two developments have consequently had the effect of circumscribing the function of the Infinitive in rather special ways, so that many of its more nominal functions have been replaced by the "Action Noun" on the one hand and by the Gerund on the other.

In addition to the three kinds of surface-structure syntactic functions performed by infinitival phrases illustrated in (2) above (as complements

of verbs and adjectives, and as their counterpart sentential subjects), infinitivals also typically function as the complements of prepositions, thus:

(8) (i) bli laxšov paamáyim
without to think twice
'without thinking twice'

(ii) bimkom lədaber štuyot
instead of to talk nonsense

(iii) kmo linsóa layaréax
like to travel to the moon
'like(=similar to) travelling to the moon'

(iv) yoter tov mi lamut miráav
more good than to die from hunger
'better than dying of hunger'

Here, as in the cases illustrated in (2), the infinitival phrase has a typically nominal function and can in effect be replaced either by a simplex noun or by a derived "action" nominal. Thus, along with (i) above, we could get *bli kesef* 'without money' or *bli hitnagdut* 'without resistance', or for (ii) above *bimkom šiur* 'instead-of (a)-lesson'. Note, however, that the infinitive will never follow prepositions expressing an idea of Time, such as *ad* 'until', *bizman* 'during, at the time of', *likrat* 'towards (time)', *lifney* 'before', or *axarey* 'after'. Yet is is precisely in such contexts that the Gerund is most likely to occur in Modern Hebrew – as was briefly noted above.[9]

For the various reasons outlined in this section, we thus consider it necessary to treat the Infinitive and the Gerund as distinct constructions in contemporary Hebrew. No more detailed consideration of infinitival constructions is undertaken in this volume, *inter alia*, because many of the issues involved in their characterization – such as the underlying semantic structure of various types of complement constructions taking the surface form of an infinitival phrase – are more relevant to universal rather than to language-specific grammar (see fn. 1 to Chapter Eight). In the following section we proceed to a consideration of what we have termed the "Gerund" in Modern Hebrew grammar, a topic which has generally not been adequately treated by contemporary Hebrew studies.

9.2 GERUNDS

The following points sum up our observations concerning the Gerund in Modern Hebrew:

Gerundive phrases take the following surface form, as illustrated in (4) and (5) of the preceding section:

(9) $_{NP}[(PREP)\widehat{\ }V\text{-}GERUND\widehat{\ }NP_x\widehat{\ }X]$

This structure can be explained as follows:

(i) The initial preposition is indicated as optional; where it occurs, the gerundive phrase in question has the unmarked or paradigm function of such expressions in Modern Hebrew – as a sentence-modifying adverbial of the type illustrated in (4) and (5) above. These expressions are analysed in Section 9.2.1 below.

(ii) Where the prepositional does not occur, the gerundive phrase will function as a "nuclear" rather than a modifying constituent of the sentence within which it is embedded (see fn. 4 above). This occurrence of gerundive phrases is restricted to a subset of gerund forms which we term "the nominal gerund," as described in Section 9.2.2 below, and it constitutes the more marked or atypical usage in contemporary – though not Bibical – Hebrew.

(iii) The morphological form as well as the semantic content of the second element in (9) above – the "gerund" itself – is derivable by general rule from any "verb"; i.e., it is predictable as an automatic outcome of any combination of Root + *binyan* in the language. In other words, given any such combination, the form taken by the gerund will be predictable in terms of rule-bound morphophonemic processes (a regularity that applies to infinitives as well, but not, as we shall see, to so-called "Action Nouns" – the construction we indicate by V-Nom). Moreover, the interpretation of any such form is related in a regular fashion to finite verbs having the same Root + *binyan* combination in the sense of: "(act of) VERBing". Thus, the gerund *gmor* is to *gamar* '(he) finished' as is the gerund *ktov* to *katav* '(he) wrote'; and the gerund *hikatev* is to *nixtav* 'was-written' as is the gerund *haxtiv* to *hixtiv* '(he) dictated', etc. In other words, this construction can to some extent be identified with what has been termed the "gerundive (factive) nominal" as compared with the "derived (action) nominal" in English (in, for instance, Lees 1960), although as we shall see in the next chapter, the constructions are differently constrained in Hebrew.

(iv) NP_x is an obligatory constituent in any gerundive expression; it bears the relation of Agent to the action or state expressed by the Gerund and can thus be identified with the deep-structure subject of the verb underlying the gerund. This NP very generally comes immediately after the gerund with which it may in a sense be viewed as being in a construct-state *smixut* type relation.[10] That is, the gerund is essentially a "bound" form which must be followed by a nominal – either enclitically suffixed to it if NP_x is a personal pronoun, or as a separate noun or noun phrase.

(v) In terms of its ability to participate in construct-state *smixut* constructions, the gerund is constrained as described in Section 7.2.3. Unlike "pure" nouns, as head element of a *smixut* construction, gerunds can occur in the "bound" but not in the "separate" state – i.e., with the particle *šel*. In fact, we shall claim that the adverbial-type gerundive described in Section 9.2.1 below cannot occur in any other kind of *smixut* construction – except as the head of a "bound" genitive – as noted in (iv) above. Certain other options are open to the "nominal" type of gerundive, described in Section 9.2.2 below.

(vi) The last constituent listed as X in (9) above represents any complement of the verb underlying the gerund: thus, for "absolute intransitives," X may be zero; where the verb has one or more obligatory complements as well as modifiers, these will invariably take the same form as the complements associated with the underlying verb in a finite, non-gerundive form. The possibilities include: Object NP's taking the accusative marker *et* or some other prepositional, Infinitival Phrases, and *še-* Clauses, as well as expressions of Manner, Location, etc.

9.2.1 Adverbial Gerundives

In this section we refer to the most typical occurrence of gerundives in Modern Hebrew, where expressions taking the surface shape of (9) above function as illustrated in (4) and (5): as adverbial modifiers expressing the notion of "attendant circumstances" with respect to the activity described in the "nuclear" part of the sentence – i.e., in the Main Clause.[11] As such, expressions can very regularly alternate with *še-* clauses containing a finite verb, as illustrated below. In actual usage, the *še-* clause paraphrase is far less "marked," gerundives being typical of the written language – not only in very formal style, but in newspaper writing, too; gerundive adverbials are rarely if ever found in casual spoken usage today.

(10) (i) a. hu tarak et hadélet bəhikanso laxéder
he slammed OM the door on entering(his) to the room

b. hu tarak et hadélet kše hu nixnas laxéder
he slammed OM the door when he entered to the room

(ii) a. hem yəxaku ad rédet haxašexa
they will wait until falling of (the)darkness

b. hem yəxaku ad še haxašexa tered
they will wait until (that) (the)darkness will fall

(iii) a. kulánu nivdáknu lifney aloténu lamatos
all of us were checked before boarding(our) (to)the plane

b. kulánu nivdáknu lifney še alínu lamatos
all of us were checked before that we boarded the plane

The type of prepositionals typically used with these adverbial gerunds are generally identical to sentence-subordinating conjunctions when combined with *še-* 'that'. Thus: [*ad* + GERUND] 'until' ~ [*ad še-* + SENTENCE]; [*lifney* + GERUND] 'before' ~ [*lifney še-* + S]; [*ləaxar* + GERUND] 'after' ~ [*ləaxar še-* + S]. Where the preposition expresses concurrence or simultaneity, in more informal usage the normal enclitic form *kše* = *kaašer* 'when' is used, as illustrated in (10-i,b) above; thus the form **bše-* is not found at all, though where the preposition is *im* 'with, while', *im še-* is used in very formal literary style in preference to *kše-* in the sense of 'at the time that'. Thus, for instance:

(11) (i) a. bəsaymo et hatafkid hu yaca ləxufša
on completing his OM the job he went on leave

b. *bše siyem et hatafkid ...
on that (he)completed OM the job

c. kše siyem et hatafkid ...
when(that) (he)completed OM the job

(ii) a. im saymo et hatafkid hu yaca ləxufša
with completing OM the job he went on leave

b. im še siyem et hatafkid ...
with that (he)completed OM the job

c. kše siyem et hatafkid ...

This very special constraint on the preposition *bə-* is only one of a number of factors which set it apart from all other prepositionals used with the gerund in the following sense: it is quite clearly the most typical or

"unmarked" context in which gerunds are used in Hebrew today. Thus, when asking native-speaking college students to give an example of *šem hapóal* other than the case with *lə-* (the infinitive), they will almost invariably cite instances of the gerund used with *bə-*. Moreover, of about 100 or so sentences examined of the occurrence of adverbial-type gerunds in written texts – from the daily press as well as from post-1948 Hebrew fiction – some 85% used the prepositional *bə-*. Another point which makes *bə-* slightly different as a context for gerundive adverbials is its twofold interpretation: it generally has the temporal meaning of co-occurrence or simultaneity illustrated in (10) and (11) above – and in (b) below; but it can also have an instrumental or agentive sense, as indicated by the additional paraphrases of (a) given in examples (c) and (d) below:

(12) (i) a. bəhagdiro bimduyak et hatnaim šel haheskem
by defining its precisely OM the terms of the agreement
maamar ze torem truma xašuva
this article contributes (an)important contribution

b. kše hu magdir bimduyak et ...
when it defines precisely OM

c. bəxax še hu magdir bimduyak et ...
in(it) that it defines precisely OM

d. al ydey kax še hu magdir bimduyak et ...
by (it) that it defines precisely OM

(ii) a. bəvakšo lənacla kixli politi
by wishing his to use it as(a) political instrument (=weapon)
hapakid bolem kol yozma šel havaada
the clerk holds back any initiative of the committee

b. kše hu məvakeš lənacla ...
when he wishes to use it

c. bəxax še hu məvakeš lənacla ...
in(it) that he wishes

d. al ydey kax še hu məvakeš lənacla ...
by (it) that he wishes to use it

The inherently ambiguous nature of *bə-* as between a temporal interpretation, manifested by the use of *kše* 'when', and an instrumental one, manifested by the use of *al ydey* 'by (means of)', is thus retained when it is used with gerundives. Yet, as we shall see below, all other prepositionals

used with gerundives in contemporary Hebrew invariably have a temporal interpretation – whether of concurrence or not.

We return now to the internal structure of adverbial gerundives as depicted in (9) above. Note that both the preposition and the Subject NP are obligatorily required to "flank" the gerund itself. Consider, for instance:

(13) a. ?On her seeing John, Alice got up and left the room.
b. On seeing John, Alice got up and left the room.
c. Seeing John, Alice got up and left the room.
d. *Seeing John, the room suddenly emptied.

In the English examples above, (a) is dubious, as the overt Subject *her* is not required by the gerund *seeing*; (b) is well-formed, the Subject occurring only once, in the Main Clause, but not repeated with the gerund; (c) is also well-formed, although there is no overt preposition; (d) is ungrammatical because of the "dangling participle" *seeing*, which cannot have the same Subject NP *the room* as does the Main Clause. The constraints associated with such adverbials in Hebrew are rather different. Thus:

(14) a. birota et dan, aliza káma veyaca mehaxéder
on seeing her OM Dan, Alice got up and left (from)the room
b. *birot et dan, aliza káma ...
on seeing OM Dan, Alice got up
c. *rəot et dan, aliza káma ...
seeing OM Dan, Alice got up
d. *rəota et dan, aliza káma ...
seeing her OM Dan, Alice got up

Of the four versions above, only (a) is well-formed, because it alone meets the requirements of the structure: [PREP ⁀ GERUND ⁀ NP ⁀ (X)], as compared to the well-formedness of the English expressions in (b) and (c) of (13). Note that – possibly because of the need for an overt Subject NP – the subject of the gerund need not be the same as the Subject of the Main Clause. Thus, the following are all equally well-formed:

(15) (i) a. bəhagía hanosim lamatos hem
on reaching the passengers (to)the plane, they
nivdəku
were checked

b. bəhagía hanosim lamatos hapakid
on reaching the passengers (to)the plane, the clerk
badak et kol hamizvadot
checked OM all the luggage

(ii) a. ad hibaxaro latafkid dan lo lavaš
until being elected his to the job, Dan (did)not wear
xalifot
suits

b. ad hibaxaro latafkid, af exad lo
until being elected his to the job nobody (not)
lavaš xalifot
wore suits

c. ad hibaxer dan latafkid, af exad lo
until being elected Dan to the job, nobody (not)
lavaš xalifot
wore suits

Two interesting constraints restrict the use of gerundives in Modern Hebrew. Firstly, with a few relatively marginal exceptions to be discussed in the next section, they function **only** in an "extra-nuclear" adverbial capacity under the right-most node of a tripartite structure of the type $_{S}[NP\ \widehat{VP}\ \widehat{S=ADV}]$. That is, they typically do **not** function as surface subjects nor even as complements of verbs which govern prepositions in such a way that the constituent structure represented in (9) above could be maintained. In this sense they differ from their derived nominal counterparts, as indicated below:

(16) (i) a. haxlito lifroš garam limvuxa raba
his deciding to retire caused great confusion

b. haxlatato lifroš garam limvuxa raba
his decision to resign caused great confusion

(ii) a. *hem huftəu misarev hasar
they were surprised from=at(the)refusing of the minister
ləkabel otam
to receive OM them

b. hem huftəu miseruv hasar
they were surprised at(the)refusal of the minister
ləkabel otam
to receive OM them

One might argue that the deviance of (i-a) above is due to the lack of a prepositional preceding the gerund *haxlit* 'deciding'; but this structural objection does not apply to (ii-a), in view of the appearance of the prepositional *mi-* attached to the gerund *sarev*.[13]

Another constraint which applies quite peculiarly to gerundives and which sets them apart from their "derived nominal" counterparts is the following: gerundive-type sentence-adverbials may be derived just in case the adverbial has a **temporal** interpretation. That is, the structure under consideration here will occur with such prepositions as: *bə-*, *im* 'on, with' (simultaneity), *lifney* 'before', *axarey* 'after', *ad* 'until', and so on; but **not** with prepositions expressing such relations as Process, Cause, Concession, Purpose, and so forth. This contrast is illustrated below:

(17) (i) a. *tox hazrik haikarim et hahódim
during injecting the farmers OM the turkeys

b. tox hazrakat haikarim et hahódim
during injection of the farmers OM the turkeys
'during the farmers' injection/injecting of the turkeys'

(ii) a. ?ágav ruca yom yom ləórex haxof
in the course of running her day by day along the beach

b. ágav ricata yom yom ləórex haxof
in the course of run her day by day along the beach

(iii) a. *biglal hitnaged dan lahacaa
owing to opposing Dan to the proposal

b. biglal hitnagdut dan lahacaa
owing to opposition of Dan to the proposal

(iv) a. ?ləšem kayem dan et hakéšer
for(the purpose of) maintaining Dan OM the contact
im xaverav
with his friends

b. ləšem kiyum dan et hakéšer im xaverav
for maintenance of Dan OM (the)contact with his friends

(v) a. *lamrot hacía dan et hapitaron
despite proposing Dan OM the solution

b. lamrot hacaat dan et hapitaron
despite proposal of Dan OM the solution

(vi) a. *al ydey vatro al haikaron
by renouncing his on(=of) the principle

b. al ydey vituro al haikaron
by renunciation his of the principle

The expressions in (17) express such adverbial relations as: Process (i) and (ii), Reason (iii), Purpose (iv), Concession (v), and Agency (vi). Despite the fact that the gerundives in (a) meet the surface structural requirements of [PREP⌢GERUND⌢NP] in each case, the expressions are unacceptable or at best dubious in contemporary usage. Their (b) counterparts, differing only in that the underlined form is an abstract derived nominal rather than a gerund, are all acceptable in more formal usage today.

Given that adverbial gerundives are typically used in time-expressions, the question arises as to what kind of tense-value, if any, should be associated with gerunds of this type. Earlier in this work we noted that gerunds – like infinitives – may be derived just in case the VP in which they occur has a minus value with respect to the category of Tense (see Section 5.6.1). We can now attempt to motivate this view by the claim that the tense value of a gerund within a given S is syntactically determined by the tense value of the matrix or Main Clause VB,[14] as demonstrated below, where (a) and (b) have the same meaning in each case:

(18) (i) a. kulam kámu bəhikanes rina lamisrad
everyone rose on entering Rina (to)the office

b. kulam kámu kše rina nixnəsa lamisrad
everyone rose when Rina entered the office

(ii) a. kulam kamim lifney hikanes rina lamisrad
everyone rises before entering Rina the office

b. kulam kamim lifney še rina nixnéset lamisrad
everyone rises before that Rina enters the office

(iii) a. kulam yakúmu leaxar hikanes rina lamisrad
everyone will rise after entering Rina the office

b. kulam yakúmu leaxar še rina tikanes lamisrad
everyone will rise after that Rina will enter the office

Compare these pairs of paraphrases of gerundives and finite-verb *še-* clauses with the following:

(19) (i) a. kulam kámu im hikanes rina lamisrad etmol
everyone rose on entering Rina (to)the office) yesterday

b. *kulam yakúmu im hikanes rina lamisrad etmol
everyone will rise on entering Rina the office yesterday

(ii) a. kulam yakúmu im hikanes rina lamisrad bəod šaa
everyone will rise on entering Rina the office in another hour

b. *kulam kámu im hikanes rina lamisrad bəod šaa
everyone rose on entering Rina the office in another hour

(iii) a. *kulam kamim im hikanes rina lamisrad etmol
everyone rises on entering Rina the office yesterday

b. *kulam kamim im hikanes rina lamisrad bəod šaa
everyone rises on entering Rina the office in another hour

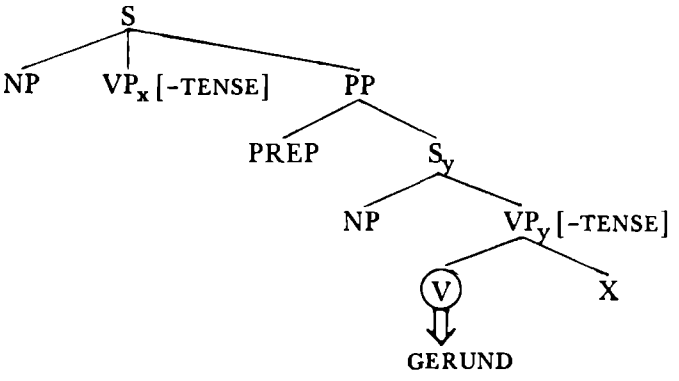
The constraints noted above may be formulated as follows:

(20) A matrix VP, VP_x, will have the same temporal interpretation as an embedded VP, VP_y, on condition that:

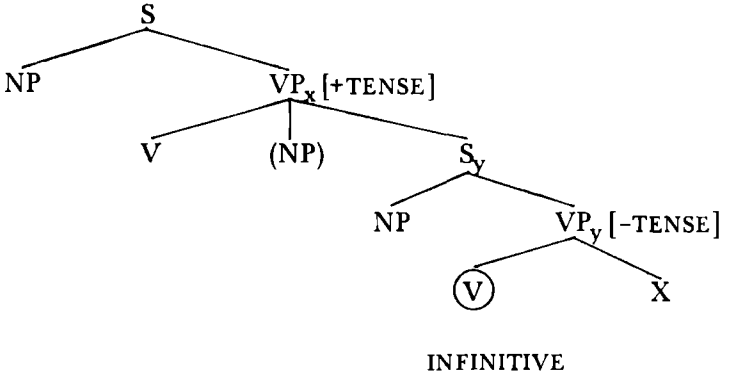
(i) VP_y is marked for [-TENSE], but VP_x for [+TENSE],
and (ii) VP_x does not dominate VP_y.

These conditions will apply precisely in the case of a VP whose head V takes the form of a gerund — as in (21-i) below, but not in the case of a VP whose head V will take the form of an infinitive, as in (21-ii):

(21) (i) BASE STRUCTURE FOR S_y FROM WHICH A GERUNDIVE IS DERIVED



(ii) BASE STRUCTURE FOR S_y FROM WHICH AN INFINITIVE IS DERIVED



Consideration of the two structures in (21) – which omit certain details not relevant to the issue in question here – reveals that both meet condition (i) of (20) – that is, in both cases the matrix VP_x is [+TENSE] and the embedded VP_y is [-TENSE]; but only the first structure in (20) meets the second requirement of (20): that VP_y not be dominated by VP_x.

This "time-agreement" convention, as formulated in (20), seems to capture precisely the semantic nature of adverbial gerundives, for, as noted

at the outset of this discussion, these expressions refer to "attendant circumstances," that is, circumstances attendant upon the activity, event, or state expressed in the Main Clause, and their temporal interpretation is a function of the specific prepositional which serves to subordinate it, on the one hand, and on the tense-value of the Main Clause which it is modifying, on the other.

We noted earlier that the Subject of the Gerund need not be co-referential with the subject or with any other NP of the Main Clause (see the examples in (15) above). Consider now what types of constraints might be incurred on pronominalization in gerundives derived from a structure of type (21-i). Here, the restrictions noted by Langacker (1969) for English can be seen to apply. In the following examples, underlined nominals are intended to be co-referential:

(22) a. dan nivhal bəhikanes rina lamisrad
Dan was startled on entering Rina (to)the office

b. dan nivhal bəhikanso lamisrad
Dan was startled on entering his the office

c. hu nivhal bəhikanes rina lamisrad
he was startled on entering Rina the office

d. *hu nivhal bəhikanes dan lamisrad
he was startled on entering Dan the office

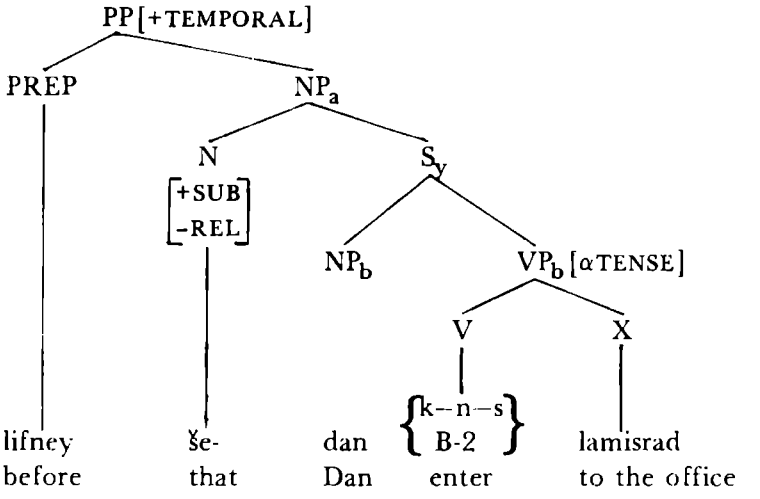
e. hu nivhal bəhikanso lamisrad
he was startled on entering his the office

If *hu* and *dan* are co-referential in (d), the expression is ill-formed just because it violates the two conditions of "preceding" and "commanding" as stipulated by Langacker.[15]

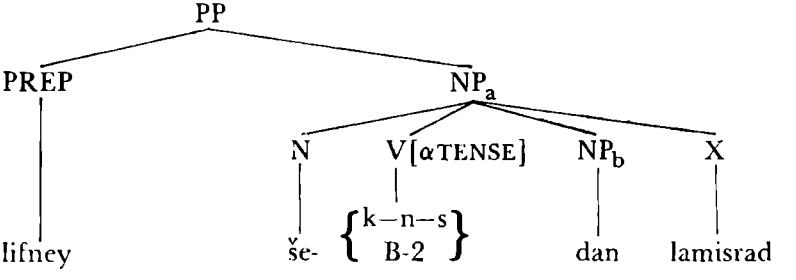
With respect to the derivation of these adverbial gerundives, we need to note that the base-structure suggested in (21-i) is somewhat over-simplified. Our proposal is to derive such expressions in a manner parallel to the derivation of their periphrastic *še-* clauses, the difference depending primarily on whether the VP in question is plus or minus Tense. Thus:

(23) DERIVATION OF ADVERBIAL GERUNDIVES

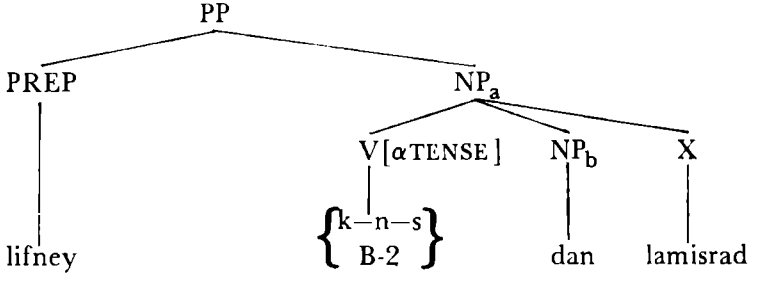
(i)



⇒ (ii)



⇒ (iii)



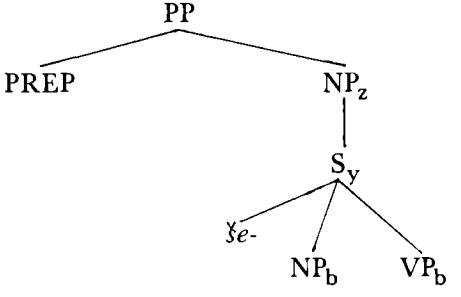
⇒ (iv) lifney hikanes dan lamisrad
before entering Dan to the office
'before Dan's entering the office'

The following points are incorporated in the analysis proposed in the tree-structures of (23) above:

(i) a. The structure in which gerundives are embedded is a prepositional phrase functioning as a sentence-adverbial and immediately dominated by the matrix S — as shown in (21-i). This adverbial is further specified for the feature of temporality, thus capturing the very restricted range of usage associated with gerundives in Modern Hebrew: i) only as "extra-nuclear" sentence-modifying adverbials and **not** as complements of verb-governed prepositions (see fn. 13 above); and ii) only in expressions of Time, not of Process, Reason, Cause, etc. — as indicated by the examples in (17) above.

b. The structure functioning as NP_a in the context $_{PP}[P + NP]$ takes the form $_{NP}[še- + S]$, where the formative *še-* is uniquely characterised by the properties: {[+SUBORDINATOR], [-RELATIVE]}.[16] The base-structures in (23-i) and (23-ii) assign to the subordinator *še-* the status of a head noun — a procedure supported by various arguments as set forth, for example, in Schwartz 1971, in a general discussion of the syntactic status of *that*-type subordinators in different languages. Alternatively, the structure represented in (23-i) might be rendered as follows, with the *še-* subordinator being Chomsky-adjoined to the embedded S, itself directly dominated by NP, thus:

(24)



The arguments favoring one or another of these two analyses lie in the domain of general linguistic theory and would thus, presumably, apply equally to Hebrew as to other languages.

c. Just in case the embedded VP contains a finite verb — i.e., VP_b is [+TENSE] — (23-i) will be the basis for a well-formed expression of the type: *lifney še dan nixnas lamisrad* 'before (that) Dan entered (to)-the-office', *ad še hu yagía* 'until (that) he will-arrive', *im še rina holéxet habáyta* 'with (that) Rina goes home'.

(ii) a. Just in case VP_b is [-TENSE], the subject of the embedded verb – NP_b – is obligatorily permuted with the verb to yield the structure shown in (23-ii). That is, the subject NP is brought round to follow the verb that will take the surface-shape of a gerund.

b. As a result of loss of structure of the embedded sentence S_y – which no longer has an initial subject NP – the S node is erased, yielding an NP of the form: [*še-* $\widehat{V}$ $\widehat{NP}$ $\widehat{X}$] – where X represents the complements of V, including zero.

(iii) a. A very general process of *še-* deletion is now incurred – just in case the *še-* is directly followed by a verb immediately dominated by [-TENSE]. These conditions are met by the structure of NP_a in (23-ii), yielding the curtailed NP_a shown in (23-iii).

b. The surface structure of gerundives thus takes the form of NP_a in (23-iii): $_{NP}[\widehat{V}\ \widehat{NP}\ \widehat{X}]$, i.e., a noun phrase which has a verbal head. This seems to capture the dual character of a gerund in Hebrew: a form which displays peculiarly verbal characteristics in terms of types of complements and modifiers, etc., but which functions as the head of a nominal constituent.

(iv) Given a structure of the type shown in (23-iii), various lower-level morphophonemic and other rules will apply to yield the gerundive form of a given V = [ROOT + *BINYAN*] (e.g., *hikanes* from {k–n–s + B-2}), and to assign case and definiteness marking, etc. If the original Subject NP_b were a pronominal, it would at this point be enclitically suffixed to the gerund to yield, say, from *hikanes* + *hu* 'entering he' the surface form *hikanso*.

We shall see in the next chapter, in our discussion of Derived "Action" Nominals, that very similar processes are involved elsewhere in the grammar. These include *še-* deletion: compare *še hu yikanes latafkid ze naxuc lánu* 'that he will-enter the-job it (is) necessary to us' / *knisato latafkid hi nəxuca lánu* 'entrance-his to-the-job it (is) necessary(Fem) to-us'. This same example also shows that subject-verb inversion, as discussed in point (ii-a) above, is required under abstract nominalization, too, and not just for gerundives, where the verb is obligatorily followed by its underlying subject NP.

In other words, the derivation outlined above attempts to demonstrate the correspondence between adverbial gerundives and a) their finite counterparts, *še-* clauses, and/or b) their more nominal counterparts, having an abstract nominal, V-Nom, rather than a gerund as head. Before

proceeding to this latter construction, we briefly consider a somewhat different class of gerundives, those we have termed "Nominal Gerunds."

9.2.2 Nominal Gerundives

We are concerned here with the occurrence of gerunds in the following surface structure:

(25) $_{NP}$[GERUND + NP + X]

that is, in the same form as (9), but without the initial preposition. This structure can function as any other NP – not merely in the adverbial capacity discussed in the previous section, but also as the surface subject of a sentence, as the object of a main verb, and so on. Our claim is that such instances are restricted to a small subset of verbs, the gerundive form of which is commoner than the corresponding abstract nominal, V-Nom, even in contemporary usage.

This class of verbs includes a few verbs with "defective" roots in B-1 – e.g., [bo] 'coming' from the root b–w–? and [šuv] 'returning' from š–w–b; a number of verbs in B-2 that have no more basic form in B-1, such as *header* 'being absent' and *healem* 'disappearing' from the roots '–d–r and '–l–m respectively; and even a number of verbs in B-5 – such as *hagía* 'arriving'.[17] Examples of how these forms are used are given below:

(26) (i) boo šel rofe ləmakom nidax ze məsamel
coming his of doctor to place forsaken this symbolizes
mifne xašuv
change important
'the coming of a doctor to this forsaken place symbolizes an important change'

šuvam šel akademaim árca hu córex xiyuni
returning their of academics to Israel it need vital
'the returning of academics to Israel is a vital need'

(ii) meaz mikre healmo
since incident of disappearing his
'since the incident of his disappearing'
bəmešex kol šəot headro
during all hours of being absent his
'during all the hours of his being absent'
bsorat hagía xameš hasfinot lanamel
news of arriving five the ships to the port
'the news of the five ships' arriving at the port'

(iii) hu hitnaged ləcetam ləvad
he opposed to departing their alone
'he opposed their departing alone'
któvet latínit baéven məida al himaco
inscription Latin in the stone testifies on being present its
šel halegyon
of the legion
'a Latin inscription in the stone testifies to the legion's being present'

(iv) hibíu tarómet al headran hakimat
(they)expressed anger at being absent their the almost
muxlat šel toxniyot
entire of plans
'they expressed anger at the almost entire absence of plans'
hu muxan ləhašlim im healma hahistóri
he(is) prepared to accept (on) disappearing her the historical
šel mdinat yisrael
of state of Israel
'he is prepared to accept the historical disappearing of the State of Israel'

The gerundive expressions in (26) can all be paraphrased by *še*-clauses, as illustrated by the (b) examples below:

(27) (i) a. boo šel rofe ləmakom ...
b. še rofe ba ləmakom ze ...
that (a)doctor came to this place

(ii) a. meaz mikre healmo

b. meaz hamikre šehu neelam
since the incident that he disappeared

(iii) a. hu hitnaged ləcetam ləvad

b. hu hitnaged ləxax še hem yacu ləvad
he opposed (to it) that they departed alone

(iv) a. hibíu tarómet al headran šel toxniyot

b. hibíu tarómet al (kax) še toxniyot needru
(they)expressed anger (at) (it) that plans (were)absent

It thus appears that these non-adverbial occurrences of gerundive phrases can be characterized by a derivation along the same lines as suggested in the previous section in (23): just in case the VP of the embedded S is [-TENSE], the subject NP obligatorily permutes with the verb from which the gerund will be formed, and then *še-* is deleted preceding a non-finite [-TENSE] verb form.

The following can further be noted with respect to the examples in (26): the underlined gerund in each case forms the head of an expression with the type of function typically associated with NP's: surface subject in (i); adjunct of a "bound" type of construct-state genitive in (ii); and oblique object of a preposition-governing verb in (iii) and (iv). These expressions, moreover, manifest two further very nominal characteristics: they form the head of a genitive expression with *šel* 'of' in both examples in (i) and in the last example in (iii); and in (iv) they are modified by the adjectival expressions *kimat muxlat* 'almost complete' and *históri* 'historical', where these carry the definite marker *ha-* — for the head nominal, the gerunds *headran* and *healma* are rendered definite by the enclitic pronominal suffixed to them.

These properties — a) the ability to function in "nuclear" non-adverbial constituents of the sentence; b) being adjunct of a bound genitive construction or head of a genitive construction with *šel*; and c) being modified by adjectival rather than adverbial expressions which may take the definite marker *ha-* — set the "nominal" type of gerund apart from the adverbial type discussed in the preceding section. And they associate this type of gerund very closely with the abstract "action" nominal, V-Nom, with which they can alternate quite freely: that is, instead of *šuv* 'returning' in (26-i) — *šiva* 'return; in (26-ii) *healem*

'disappearing' or *healmut* 'disappearance', *hagía* 'arriving' or *hagaa* 'arrival'; in (26-iii) *himace* 'existing' or *himacut* 'existence', *cet* 'departing' or *yəcia* 'departure, etc. For if these alternations are effected – as is increasingly likely in actual spoken usage today[18] – they incur no other changes, except for the surface requirement of gender concord just in case the V-Nom form is feminine: compare *healma hahistóri* 'disappearing-her the-historical' with *healmuta hahistórit* 'disappearance-her the-historical(Fem) = its historical disappearance'.

In the concluding section of the next chapter, we try to show that even these very nominal kinds of gerunds are constrained in ways that do not apply to V-Nom which, we claim, is a far freer and less restricted construction in Modern Hebrew than is the gerund. Here we can sum up our view of the "nominal" gerund as follows: less restricted than the "adverbial" gerund both in terms of its syntactic function and in terms of the internal construction of the expressions within which it occurs, this usage of the gerund is restricted to some ten or twelve verbs in contemporary Hebrew – as noted in fn. 17, and as illustrated in (26) above. That is, given any sentential time-adverbial in Hebrew, it may take the surface form of either [PREP $\widehat{\text{še}}\ \widehat{\text{S}}$] or else [PREP $\widehat{\text{GERUND}}\ \widehat{\text{NP}}\ \widehat{\text{X}}$] irrespective of the specific verb that is Main Verb of the embedded S in each case. But for a gerund to have the feature of [+NOMINAL], enabling it to acquire all the properties outlined above for the "nominal" type of gerund, it must be formed from one of a small and restricted subset of the verbs in the language.

9.3 SUMMARY

Apart from the very restricted and atypical set of "nominal" gerunds considered in the preceding section, what we have termed the "gerund" does exist in Modern Hebrew, but in a very limited fashion indeed: its usage is stylistically to rather formal language, syntactically to sentence-modifying adverbials, and semantically to the expression of a temporal relationship between the event described in the gerundive phrase and that characterised by the main clause. In terms of the criteria of "nounness" outlined in the preceding chapter (see Section 8.2), the gerund of contemporary Hebrew is a true "verbal noun" in the following sense: unlike its infinitival counterpart as discussed in Section 9.1.2, the gerund manifests certain peculiarly nominal properties (for instance, the genitive-type relationship

which obtains between it and the associated, underlying Subject NP which follows it); on the other hand, unlike its abstract nominal counterpart as discussed in the following chapter (see, particularly, Section 10.7), the gerund retains most of the properties of its verbal source – with respect to types of complementation, modification, and negation associated with verbs and gerunds respectively. In other words, it seems reasonable to claim, as we do, that any lexical item manifested on the surface in the form of a gerund should be represented as the verbal head of a noun phrase.

NOTES

[1] The reason for the traditional term *šem póal*, literally 'noun=name of the verb' is quite clear: these forms manifest properties of both verbs and nouns. The term *makor natuy* is used by contrast with the so-called *makor muxlat* 'absolute= uninflected infinitive', which has an unvarying morphological shape and which, unlike its inflected counterpart, invariably occurs together with a finite form of the same verb. Thus for instance:

(i) a. bo tavo hagəula
come will come the redemption
'(the)redemption will *surely* come'

b. halox halxu xavréyhem
go went friends their
'their friends went *completely* away'

c. hem yargíšu hargeš hetev
they will feel feel well
'they will feel (it) *fully*'

As the examples indicate, the repetition of a finite-verb in its "basic" or "absolute" form has the effect of emphasizing a given action or state. The use of this *makor muxlat* is very restricted indeed in contemporary Hebrew and is never found in colloquial spoken usage. It can have not only an emphatic but also a repetitive kind of effect, particularly when used together with the absolute form of the verb *xazar* 'return, redo, do again' as in:

(ii) hi caaka xazor vəcaok
she shouted return and shout
'she shouted again and again'

Different types of examples of this construction are provided together with an attempted analysis in Berman 1973, fn. 2 to Chapter 8, Vol. II, pp. 49-52. Note

that whatever the interpretation, the *makor muxlat* is a strictly verbal form, which cannot be viewed as undergoing any kind of nominalization.

[2] Thus Gesenius points out that (with respect to Biblical Hebrew):

> ... the Infinitive construct is used in very various ways, sometimes in connection with pronominal suffixes, or governing a substantive in the genitive, or with an accusative of the object, sometimes in connection with prepositions, and sometimes in dependence upon substantives as genitive, or upon verbs as accusative of the object (1910, 122).

Another traditional Hebrew grammarian comments on the "infinitive" (referring to both the "construct" and the "absolute" form – see fn. 1 above) as follows:

> Not only does (the infinitive) lack any indication of tense, but it does not show number and gender either, only the abstract concept of an action being involved therein, and (it is) called an infinitive – *makor* literally meaning 'origin, source' – in that it is the source for all the various differences of the concept action which the verb has in all its different forms. The construct infinitive is even called *šem póal* in that it is both a verb and a noun (Har-Zahav 1954, 449).

Somewhat more surprising, however, is the fact that a contemporary grammarian who claims to be concerned with Modern Hebrew syntax fails to make any explicit distinction between different types of "construct infinitives" (Ben-Asher 1972c).

[3] These terms are used by another contemporary Hebrew grammarian, who does in fact make the appropriate distinction (even though, as we shall try to show in subsequent sections, we query the way in which he chooses to characterize the constructions in question). Thus Rosen notes that:

> Hebrew possesses a gerund that functions in a way very similar to the English gerund (*-ing* form)... . The Israeli Hebrew gerund has neither an isolated nor a plural form ... (and) it is accordingly called by many grammarians 'construct infinitive', but since this term is used to include the 'infinitive', we avoid it here (1962, 323-24).

[4] The distinction between "nuclear" and "extra-nuclear" constituents is drawn by Lyons in the following terms: "The subject and predicate together form the nucleus of the sentence. The subject and predicate are therefore nuclear, and adjuncts extranuclear, constituents," where by the notion "adjunct" he refers to "optional, or structurally dispensable, constituents of the sentence; they may be removed without affecting the remainder of the sentence" (1969, 334).

[5] We noted earlier that from the point of view of morphological form, Infinitives take the form of *l-* + Future Stem (see Chapter Five, fn. 1). The vowel of the prefix is phonologically conditioned as follows: its unmarked form is, as to be expected, with the neutral vowel schwa as in B-2 *ləhigamer* 'to be finished', *ləheaser* 'to be forbidden'; B-4 *ləhitkabel* 'to be accepted', *ləhistader* 'to settle down'; B-5 *ləhatxil* 'to begin', *ləhaavid* 'to employ' – in each case preceding a stem with a prefix-initial /h/; as well as B-3 *ləkabel* and *ləargen* 'to organize'.

The major alternations of this underlying form occur in B-1, preceding an

underlying stem of the form CCoC (or, occasionally, CCaC). Firstly, following a generally applicable phonetic rule, schwa gets raised to [i] in the environment C—CC, yielding the basic form of B-1 infinitives in such words as *ligmor* 'to finish', *livlom* 'to check', *limsor* 'to transmit'; this [i] is in turn lowered preceding a root initial low (traditionally "guttural") consonant which is then followed by a reduplicated version of the same lower vowel to yield: for root-initial underlying "alef" such forms as *leexol* 'to eat' and *leesof* 'to gather' (a glottal stop intervening between the two occurrences of /e/ in careful speech); for root-initial underlying "ayin" such forms as *laavod* 'to work', *laamod* 'to stand' (again with a glottal stop being pronounced between the two instances of /a/ in the usage of most speakers), for root-initial underlying pharyngeal "chet" such forms as *laxalom* or *laxlom* 'to dream', *laxašov* or *laxšov* 'to think', and for root-initial /h/ such forms as *lahafox* 'to turn' and *laharos* 'to destroy'.

This marker is often identified with the prepositional *lə-* translatable as 'to' (or 'for' in the dative sense) in English. We refer to the preposition which has such functions as the following: indicating movement towards, as in *hu halax ləmuzeon* 'he went to-(a)-museum', *hu rac ləimo* 'he ran to-his-mother', *hu hevi et haséfer ləxeyfa* 'he brought OM the-book to-Haifa'; marking dative case, as in *hu natan et haséfer lədina* 'he gave OM the-book to-Dina', *hu kana zot ləxavero* 'he bought it for-his-friend'; and as an idiosyncratic marker of government on verbs requiring oblique objects, as in: *hu heemin ləma še neemar* 'he believed (to)what (that) was-said', *hu hitnaged ləhacaa kazot* 'he opposed (to-a)-suggestion like-that', *hu sagad ləmanhigo* 'he worshiped (to)-his-leader'. Prepositional *l-* is phonologically distinct from the Infinitive marker in that, like all other prefixal prepositions, it absorbs the /a/ vowel of the definite marker *ha-*. Compare *ləmuzeon* 'to-(a)-museum'/*lamuzeon* 'to-the-museum', *ləxaver* 'to-(a)-friend'/*laxaver* 'to-the-friend'.

[6] This infinitival marker — which we have taken as a major criterion for distinguishing infinitival from gerundive "verbal nouns" in Hebrew — may be omitted in certain instances. The use of the infinitival stem with no overt *lə-* marker is particularly common in Biblical style, less so in Mishnaic usage (for examples, see Bendavid 1967, 56-57, 78). The omission of the prefixal marker is also found in certain instances in Modern Hebrew:

a) In literary usage, particularly in the style of older, non-native Israeli writers, e.g.:

(i) hagoy hafax miyad panav . . . bli
the gentile turned immediately his face without
anot davar
answer(ing) (a)word (Bialik)

(ii) kiy gam asot səuda kala kavda alay məod
for even make(ing) (a)light meal was very onerous for me (Agnon)

(iii) vayitamec məod ləvilti haavir et axuzato
and he struggled greatly so as not (to)transfer OM his estate
miménu
from him (Agnon)

b) In a few set, formulaic expressions still found in contemporary usage, such

as: *yodéa kro uxtov* 'know (how to)-read and-write', *paamim eyn sfor* 'times no count = times not to count' in the sense of 'innumerable times'.

c) In certain fairly restricted expressions of the form Verb (inflected) + Inf. Stem, e.g.: *ləhaškim kum* 'to-be-early rise = to get up early'; *hicnía léxet* 'was-modest walk = walked or went humbly'; *yanmix tus* 'will-go-low fly = will fly (a plane) low'. As the glosses imply, such instances are confined to expressions where the infinitival stem is a complement to a verb functioning as an adverbial of manner.

d) Where the infinitive follows the preposition *mi-* (lowered to *me-* before a low consonant), both when the latter is governed by a certain verb and when it functions as the comparative marker in the sense of 'than', thus:

(i) hu nizhar mi daber al hanose
he was careful from(=not) to talk about the subject

(ii) iy efšar limnóa bəado mi cet et haárec
(it's)impossible to prevent (for)him from leave(ing) OM the country

(iii) hi xadla me hakšev
she ceased (from) listen(ing)

(iv) kəcara daato me havin zot
(too)small (is) his mind (from) (to)understand it

[7] There are instances where the Gerund may be preceded by a prefixal *l-*, when it functions in a non-adverbial expression, as a "nominal" type of gerund, as described in Section 9.2.3 below. In such cases, the prefix will have one of the prepositional functions noted in fn. 5 above, as distinct from the infinitival prefix illustrated in the (b) examples below:

(i) a. xikínu lə šuvo
we waited to returning his
'we waited for his return'

b. xikínu lašuv
we waited to return

(ii) a. eyn taam lə header dan mehadiyun
no point to being absent Dan from the discussion
'there's no point to Dan's being absent from the discussion'

b. eyn taam ləheader mehadiyun
(there's)no point to being absent from the discussion

The prepositional – as compared with infinitival – function of the marker *lə-* when preposed to gerundives is clear, in view of the fact that ordinary or simplex nouns can occur in exactly the same position as the gerund in such instances, as shown in the (b) examples below:

(iii) a. matana lə saymxa et hakurs
gift to finishing your OM the course
'a gift for your finishing the course'

b. matana lə yom huladətxa
(a)gift for your birthday

(iv) a. axarey šana lə havtixo laset oti
after year to promising his to marry me
'a year after his having promised to marry me'

b. axarey šana li nəšuénu
after (a)year to(=of) our marriage

[8] There are – as implied by our comments – two types of pronominal suffixes in the language:

a) *Verbal suffixes:* where the direct object of a verb is a personal pronoun, it may be enclitically attached to the verb, though this usage is restricted to formal written style and is not found in ordinary speech. Thus:

PAST TENSE:	hitxil + oto began OM it	= hitxilo
FUTURE TENSE:	atxil + oto I will begin OM it	= atxilo
BENONI:	matxil + oto begins OM it	= matxilo
INFINITIVE:	ləhatxil + oto	= ləhatxilo

b) *Nominal suffixes:* where two nominals are related in a genitive, construct-state "bound" type of *smixut* construction, and the adjunct nominal is a personal pronoun, it must obligatorily be enclitically attached to the had noun. Thus:

POSSESSEE-POSSESSOR:
šulxan šeli = šulxani
table of me my table

ACTION-AGENT
*bniya + ani → bniyati
building/construction I my construction

ACTION-PATIENT:
*bniya + oto → bniyata
building/construction OM it its construction

GERUND-AGENT:
*bnot + ani → bnoti
construction I me/my constructing

[9] The most typical instance of a preposition followed by an infinitival is where the former expresses the notion of Purpose, as illustrated below:

(i) a. kdey laazor lo
in order to help him

b. al mnat liftor et habaaya
so as to solve OM the problem

These two (synonymous) prepositionals occur in only one other syntactic environment, preceding a *še-* 'that' clause, as follows:

(ii) a. kdey šе naazor lo
in order that we will help him

b. al mnat šе yiftəru et habaaya
so that they will solve OM the problem

The idea of purpose can also be expressed through derived "action" nominals, but then a different surface prepositional may be required, e.g.:

(iii) a. ləšem pitron habaaya
for purpose(of) solution of the problem
'for the purpose of solving the problem'

b. ləmaan hasagat hamatara
for sake(of) the achievement of the aim
'for the sake of achieving the aim'

The examples in (i) and (ii) illustrate very general properties of infinitives in languages other than Hebrew, too: as shown in (i), they quite typically serve to express the notion of purpose – even where the purpose prepositional itself is omitted; and as shown by the paraphrases in (ii), they tend to have future reference. This latter correspondence is further shown below:

(iv) a. dan raca laazor layəladim
Dan wanted to help (to)the children

b. dan raca šе naazor layəladim
Dan wanted that we will help (to)the children

(v) a. hu bikeš mexavero ləsaper lánu
he asked (from) his friend to tell us

b. hu bikeš šе xavero yəsaper lánu
he asked that his friend will tell us

[10] There are very restricted exceptions to this rule, where the complement – element X in (9) of the text – is brought round to precede the Subject NP_X. Thus:

(i) a. bəhilakax miménu išto
on being taken from him his wife
'on his wife's being taken from him'

b. bəhilakax išto miménu

(ii) a. kinfol aléha macav ruax kaše
as falling on her mood hard
'with a bad mood falling upon her'

b. kinfol macav ruax kaše aléha

(iii) a. ləaxar hagía elénu habsora hanoraa
after reaching to us the news the dreadful
'after the dreadful news having reached us'

b. leaxar hagía habsora hanoraa elénu

Such permutations are evidently restricted to complements taking the surface form of: [PREPOSITION + PRONOUN], the latter being invariably a suffixal enclitic, as

noted in Section 3.1.3. Thus, if the underlined forms in the (a) sentences above contained full NP's rather than pronominals, the result of preposing them before the underlying Subject NP would sound distinctly odd; yet given that these are pronominal, the (b) versions above sound less acceptable than do the (a) ones. This restriction on the permutation of Subject NP and Complement after a gerund is evidently due to the fact that pronominal objects are in some sense perceived as being particularly closely connected to the verb, and hence not "removable" from it. This constraint cannot be explained in terms of phonological length (the short nominal coming before the longer one) since in example (i) above the complement *miménu* has three syllables, the subject NP *išto* only two. We note this, because there are instances where, given a string of more than one pronominal complement, the shorter one will be placed next to the verb, on the basis of a quite general performance constraint. Compare, for instance:

(v) a. dan natan li oto
Dan gave to me it

b.?dan natan oto li

(vi) a. hem dibru alav itánu
they spoke about him with us

b.?hem dibru itánu alav

[11] In his 19th century study of Biblical Hebrew, Driver points out that no special syntactic form is used to express the notion of "sentence-adverbial." He terms such expressions "circumstantial clauses," which he describes as follows:

> The term 'circumstantial', or as the German word (*Zustandatz*, also *Umstandsatz*) is sometimes though perhaps less expressively rendered, (refers to) descriptive clauses (and) ...corresponds on the whole to what in the classical languages is generally termed 'the secondary predicate'. Any word or words expressive of some fact subordinate to the main course of the narrative, or descriptive of some circumstance attaining or appertaining to the action denoted by the principal verb may form a circumstantial clause or secondary predicate: an adverb, a genitive or ablative absolute, a participle or other word in apposition to the subject – all of which qualify the main action by assigning the 'concommitant conditions' under which it took place, be they modal, causal, or temporal – are familiar instances (1881, Appendix I).

[12] Reif notes this phenomenon as follows in his dissertation:

> For the root *bny*, for example, there is a gerund *bnot*, which occurs with the preposition *le* to form the infinitive *livnot*. It also occurs with the preposition *be-* as a when-type adverbial phrase, but this and other uses of the gerund or stem form are considered archaic (emphasis added – R.B.). In the articles surveyed, very few of them actually occurred, and in most cases they were more comfortably paraphrased by the conjunction *kše* – 'when' – plus the finite verb phrase (1968, 89).

We consider his claims rather too strong, however. Firstly as has already been noted, these adverbial gerundives are not confined to the prepositional *bə-* in contemporary as well as in classical Hebrew. Secondly, we have observed the use of such

expressions in the daily press, in radio announcements, newscasts, etc., as well as in some twenty works of contemporary (post-1948) Hebrew fiction – all of which use a style which can hardly be termed "archaic." Our consideration of these various sources has revealed far more than the "very few" examples noted by Reif. Moreover, as the examples in (10) and (11) indicate, there gerundives may be paraphrased by different types of *še-* clauses, not only those subordinated by *kše* = 'when'.

[13] Thus we take exception to Rosen's claim that: "The syntactic function of a gerund corresponds in everything to that outlined for action nouns in (an earlier section); the examples given there may consequently be reworded as follows (although such replacements produce expressions that are stylistically not too common)..." (1962, 324). The examples he gives include:

(i) anáxnu modiim al haxniso šel yosef ləxevraténu
we announce (about) installing his of Joseph to-our-group

(ii) haim atem məunyanim bəhistalkénu
are you interested in getting out our = in our getting out?

Both examples given by Rosen are instances of oblique complementation of preposition-governing verbs. We made up a set of nine sentences with complements having the surface form: [PREP + GERUND + NP + X] which we then presented to a group of about twenty native-speaking college students. The sentences used were:

a. nehenéynu mipogšéynu et haomanim mixuc laárec
we enjoyed (from)our meeting OM the artists from abroad

b. hem hitpaalu mitaplo banose
they wondered at treating his the subject

c. hitpocəcut adira garma ləhitnapec hazgugit
(an)enormous explosion caused (to)shattering the glass

d. hem hitnagdu ləozvénu et hamakom
they opposed (to)leaving our OM the place

e. mézeg haavir hišpía al haxlitam lacet latiyul
the weather influenced (on) deciding their to go on the trip

f. hitnahaguto məida al rəcoto ləšanot et darko
his behavior testifies to wanting his to change OM his way

g. hu nizkar bədaber hamarce al hanose bəhizdamnut axéret
he recalled (in)speaking the lecturer about the subject on another occasion

h. hu hištameš bəhofía krovav mixuc laárec kəteruc
he used (in)appearing his relatives from aborad as(an)excuse

i. hu raa bəhagiam teruc məcuyan
he saw in arriving their (an)excellent excuse

Asked to give their opinion of these sentences, the subjects nearly all felt that they were, in some undefined sense, "grammatical," but all noted that they were somehow "odd," "unlikely," "not anything I'd use," "not like the real language." Not one of the subjects acknowledged that they might actually use such forms in their own speech – although a few said they would not be surprised to find them

in "literary" language. And in fact, in our examination of newspaper and radio usage (noted in fn. 12 above), we did not come across any examples of this kind at all. The occurrence of gerundives as verb complements thus seems quite unacceptable for colloquial Israeli Hebrew – even though the fact that gerundives might have this function in Biblical Hebrew makes them seem part of the recognition grammar of the educated Hebrew speaker to this day.

[14] In semantic terms, the temporal interpretation given to a specific gerundive phrase in relation to the main clause with which it is associated is stipulated by the particular time-marking prepositional with which it occurs – as being concurrent with, prior or subsequent to the main action or event – and by the type of time-adverbials which can complement it, as indicated by the examples in (19) of the text.

[15] Langacker stipulates that "(where NP^a stands for 'anaphoric NP' and NP^p stands for 'pronominalized NP'), NP^a may pronominalize NP^p unless (1) NP^p precedes NP^a; and (2) NP^p commands NP^a" where the notion of "command" is defined by Langacker as follows: "a node A 'commands' another node B if (1) neither A nor B dominates the other; and (2) the S-node that most immediately dominates A also dominates B" (1969, 167).

[16] The marker *še-* is uniquely characterized in terms of its being a subordinating marker, but not a relative marker, to distinguish it from the homophonous relative marker *še-*, in such contexts as: *haiš še higía* 'the-man that arrived', *hasfarim še ani carix* 'the-books that I need', *baxurot še dan məxazer axareyhen* 'girls that Dan chases (after them)'. As these examples indicate, the relative marker *še-* cannot be equated with the pronominals 'who', 'which', etc., of a language like English, *inter alia*, because Hebrew relatives generally leave a pronominal copy of the repeated NP. Note that *še-* as a relative marker alternates with *ašer* in Biblical and in more formal modern Hebrew as well as with *ha-*, the latter before a *benoni*-form verb (see Section 5.2.4). The morpheme *še-* which functions in nominalizations alternates, by contrast, with the complementizer *kiy* (again, mainly in more formal rather archaic-sounding usage), as in: *yadati še-/kiy lo yaase zot* 'I knew that (he)would-not do it'. The subordinating morpheme *še-* which we are concerned with here functions as a complementizer of verbs – *hu amar (lánu) še rina halxa* 'he said (to-us) that Rina went'; of adjectives – *barur še rina halxa* '(it is) obvious that Rina went'; and of nouns – *haraayon še rina halxa* 'the-idea that Rina went'. In these respects, the Hebrew complementizer *še-* is like its English counterpart 'that', and it can even yield the same type of surface ambiguity with respect to the relative marker 'that' = *še-* as in: *haraayon še hu siper lahem* 'the idea that he told them'. Hebrew *še-* has a more extensive range than English 'that', however, in that it can typically be adjoined to prepositions to turn them into sentence-subordinating conjunctions. This kind of alternation is illustrated below:

(i) a. ad haaruxa
until the meal

b. ad še noxal et haaruxa
until (that) (we)will eat OM the meal

(ii) a. mipney habaayot
because of the problems

b. mipney še yeš lánu baayot
because (that) we have problems

(iii) a. lamrot mézeg haavir
despite the weather

b. lamrot še mézeg haavir eyno tov
despite that (=although) the weather is not good

It is this kind of regular occurrence of *še-* as a subordinating marker in sentential adverbials of Time (as in (i-b) above), as well as of Reason, Concession, etc., which underlies the analysis we propose here for the derivation of sentence-modifying gerundive adverbials. In the following chapter, we shall show that this same subordinator is needed for the characterization of other types of nominalization, too.

[17] Rosen also notes this point, in the same context as is cited in fn. 13 above. According to him, "intransitive verbs that have no action noun use the gerund in every style of Israeli Hebrew" (1962, 324). The two examples he gives are of *bo* 'coming' and *hikanes* 'entering'. Again, we take exception to Rosen's claims for at least two reasons. True, most of the verbs in this class, if not all of them, are, in a sense, "intransitive" – as borne out by the examples we give in (26) of the text. But it seems doubtful to us that this syntactic criterion is what is relevant here; rather, these are all verbs which have phonologically "defective" roots – i.e., where one at least of the root-consonants is a glide /w/ or /y/ or a so-called "gutteral" /ʔ, h, ʿ, ħ/. More importantly, as we show in the examples given in fn. 18 below, all these verbs can and in contemporary use do in fact alternate with their "action noun" counterparts, so that they cannot be characterized as "verbs that have no action noun." Rosen gives the example of *hikanes* 'entering', but this form can and does alternate with the "action noun" form (albeit in a different *binyan* pattern) *knisa*. Thus, in newspapers one may find such examples as the following:

(i) axarey knisat ben-aharon lətafkido
after (the)entrance of Ben Aharon to his job

(ii) im knisato šel gunar yaring ləsibuv xadaš šel sixot
on entrance his of Gunnar Jarring to(a)new round of talks

where, in both cases, *knisa* could be replaced by the gerund *hikanes* without incurring any other changes at all.

[18] For instance, the question of whether Israel would go back to the Jarring talks was given wide newspaper coverage in late 1970. The problem was invariably referred to in terms of *haširva lasixot* 'the-return to-the-talks' rather than *šuv lasixot* 'returning to-the-talks'; and in a variety of other contexts, too, we found the abstract nominal *širva* being preferred over the gerund *šuv* for the act of 'returning'. Similarly, in a fairly recent novel the writer alternates between using the gerund *yašgixu bəheadro* 'will-notice being-absent-his' and the abstract nominal *ləaxar headrut* 'after absence' for the verb *needar* 'be-absent'. In a radio broadcast discussing the most important events of the year (1969), man's landing on the moon was referred to as *hagía haadam layaréax* 'reaching the-man to-the-moon' and not as *hagaat haadam layaréax* – with the abstract nominal form of *higía* 'reach, arrive' (*hagaa*) being increasingly

used. One exception to this general trend to replace the "nominal" gerund by its abstract noun counterpart is with respect to the verb *ba* 'come'; contrary to Rosen's claim, this verb does have an "action noun" form, *bia* – as in the traditional phrase *biat hamašíax* '(the)coming-of the-Messiah' – but the form *bia* is also used quite exclusively in the sense of 'copulation', and this may explain why to this day the gerund form *bo* is still preferred to its abstract noun counterpart. However, these "nominal" gerunds are generally becoming less and less typical of contemporary usage.

10 ABSTRACT DERIVED NOUNS

10.0 INTRODUCTION

This chapter[1] is concerned with two subclasses of abstract nouns: a) words like *bniya* 'building' in the sense of 'constructing' or 'construction', *knisa* 'entering' or 'entrance', *dibur* 'speaking' or 'speech', *tipul* 'treating' or 'treatment', *hitnagšut* 'colliding' or 'collision', *hitnagdut* 'resisting' or 'resistance', *haxlata* 'deciding' or 'decision', *haskama* 'agreeing' or 'agreement'; and b) words like *xumra* 'severity', *nóam* 'pleasantness', *xoxma* 'wisdom', *axrayut* 'responsibility', *rəcinut* 'seriousness', *yəilut* 'efficiency'. We label words like those in (a) as V-Nom, standing for "nominals derived from verbs" and those in (b) as A-Nom, standing for "nominals derived from adjectives." The bulk of this chapter is concerned with an attempt to specify precisely what is meant by the notion "nominal derived from" by characterizing the defining properties of all and only the members of the category of "derived nouns" in Hebrew – in terms of the meaning of such expressions (Section 10.2) as well as in terms of their morphological features (Section 10.3) and syntactic patterning (Sections 10.4 and 10.5).

A detailed analysis of such expressions seems of interest for a number of reasons. Firstly, the accepted notion of *šem pəula*, literally 'name-of action = action noun', as treated in Hebrew studies needs to be refined, for the reasons suggested in Section 10.1 below. Secondly, the tradition of disregarding the adjectivally-derived group of A-Noms, both in the Hebrew studies noted in Section 10.1 below and in the general linguistic discussion of nominalization – seems to us to establish an unnecessary dichotomy. Thirdly, the relationship between such nominals and the verbs (or adjectives) to which they correspond has been the focus of much discussion in general linguistic theory over the past decade or so. (For references to the lexicalist and transformationalist positions on this issue, see fn. 2 to

Chapter 8.) Moreover, such studies generally center around data from English, drawing a comparison between the predictable and hence invariably "derived" gerundive or factive nominal in English and the abstract, more idiosyncratic action nominal of the same language; yet the V-Nom of Hebrew manifests properties of **both** types of expressions in English – as evidenced by the dual gloss given to the words in (a) of the preceding paragraph ('constructing' **and** 'construction', 'entering' **or** 'entrance', etc.). The relationship between the gerund of Hebrew (Chapter Nine above) and the action nominal described in this chapter is examined in some detail in Section 10.6 below.

Finally, another strong motivation for examining the nature of Hebrew derived nominals relates to the root-based lexicon of Hebrew: the bulk of Hebrew nouns can be characterized as "related" to verbs, in the sense of a common consonantal root and hence a shared semantic core (see Sections 8.3 and 11.0). Yet our claim will be that only one very specific, though relatively productive subset of all such "verb-related nouns" falls within the category of "derived nouns." The former – represented, for example, for the root b–n–y by such nouns as *binyan* '(a)building' (for example, a house or a skyscraper), *mivne* '(a)structure', and *banay* '(a)builder' – are the focus of consideration in the next chapter, Chapter 11; the latter – represented by the examples in the first paragraph of this section – are unique in that, while manifesting most of the properties of ordinary non-derived or "basic" nouns, they still retain traces of their verbal or adjectival origin, not only in semantic content and selectional constraints, but also in terms of syntactic patterning: the kind of surface constructions they can enter into, the type of complement structures and modifiers they allow or require, how they are negated, and so forth.

10.1 TREATMENT OF ACTION NOUNS BY HEBREW GRAMMARIANS

One of the properties distinguishing Modern Hebrew syntax from the classical language of the Bible is the widespread and productive use of a construction generally known as *šem pəula* 'action noun'. It is thus not surprising that its occurrence has been of interest to contemporary grammarians although, for reasons we try to explain below, no thoroughgoing analysis was undertaken until quite recently (Berman 1973, Chapters 11-14). The historical development of the *šem pəula* action noun is briefly outlined below, by comparison with the *šem póal* 'verbal noun' dealt with in the preceding chapter.

10.1.1 Verbal Noun vs. Action Noun

Forms which can be morphologically identified with the *šem pəula* of Modern Hebrew are rare in Biblical Hebrew where they function, if at all, as stylistic variants of the more verbal *šem póal* (see Ben-Asher 1976, 23-26 and further references cited there). Scholars are generally agreed that in post-Biblical Mishnaic times this action noun became quite firmly established in the language – possibly under the influence of the then prevalent Aramaic – and that it tended to replace the gerund of Biblical usage (see, for example, W. Chomsky 1957, 189; Peretz 1967, 64; Rosen 1956, 56 and 1962, 323; Segal 1936, 68). That is, while the infinitive carried over from Biblical times via Mishnaic into Modern Hebrew, the gerund fell into almost total disuse in the language of the Mishna, being replaced by the more noun-like *šem pəula*. This development can be charted as follows, where a plus sign indicates general occurrence, and a minus sign general non-occurrence.

(1)

	šem hapóal		*šem hapəula*
	INFINITIVE	GERUND	ACTION NOUN
	liktol 'to slay'	*ktol* 'slaying'	*ktila* 'slaughter'
BIBLICAL c. 1200-300 B.C.	+	+	–
MISHNAIC c. 300 B.C. – 600 A.D.	+	-	+
MODERN c. 1900 A.D.	+	(+)	+

The plus of the gerund is parenthesized in the last row because the Modern Hebrew gerund is used in such a highly restricted fashion (see Section 9.2 above). Some purists object to the use of the action noun in Modern Hebrew, too, claiming that a periphrastic version of the same expression using the infinitive is preferable in all instances (see Avinery 1964, especially p. 565). However, whether due to foreign influences or not, the *šem pəula* is an established fact in contemporary usage. As such, the chart in (1) above illustrates a peculiar property of Modern Hebrew, attributable to the unusual circumstances of its revival as noted in Chapter One: the contemporary idiom has simultaneously absorbed both earlier,

Biblical resources, the infinitive and gerund, and later, Mishnaic usages, the action noun.

In terms of syntactic patterning, the three elements represented in the chart above range from the clearly verbal infinitive, through the semi-nominal gerund to the clearly noun-like action noun (see Berman 1973, Chapters 1 and 2 and Section 8.2 of this present volume). Another obvious question is how they compare in distributional terms, from the point of view of the syntactic functions they may or may not each fulfil. When the gerund is compared with the action noun, the answer is quite straightforward – as shown in Section 10.6 below. The interchangeability of infinitive and action noun remains an issue for further research, the work by Ben-Asher providing only very partial answers in this connection (see Ben-Asher 1972c and 1976).

10.1.2 Different Approaches to the Action Noun

Below we consider various discussions of the *šem pəula* by contemporary Hebrew grammarians according to three main kinds of approach: a) morphological, b) functional, and c) syntactic, and we try to show the inadequacies of each.

a) Morphological Descriptions

Works on Hebrew concerned, however marginally, with the *šem pəula* will quite generally list the forms given in the second column of (2) below as the paradigm instances of this construction for each *binyan* 'verb-conjugation' pattern (see, for instance, Segal 1936, 68; Rosen 1956, 56; W. Chomsky 1957, 188-189). The traditional label for each of the five major *binyan* patterns (see Section 3.3.1) is given in the leftmost column below, no separate action noun form being associated with the two strictly passive conjugations, *pual* and *hofal.*

(2)

CONJUGATION	ACTION-NOUN PATTERN	EXAMPLES	
kal = paal B-1	CCiCa	*bniya*	'building'
		šmira	'protecting'
		*halixa**	'going'
nifal B-2	hiCaCCut	*hišamrut*	'being protected'
		hitaklut	'encountering'
		*heanut**	'responding'
piel B-3	CiCuC	*tipul*	'treating'
		bidur	'entertaining'
		kinus	'convening'
hitpael B-4	hitCaCCut	*hitxadšut*	'renewing'
		*hištamrut**	'preserving'
		hitpaalut	'wondering'
hifil B-5	haCCaCa	*haskama*	'agreeing'
		haxlata	'deciding'
		hapala	'aborting'

Note: (i) Asterisked forms deviate from the paradigm for phonological reasons, predictable by fairly straightforward phonetic rules.

(ii) The glosses are all given in the participial-gerundive form (with *-ing*); however, they could just as well be rendered by the appropriate abstract nouns in English, e.g., 'protecting/protection', 'responding/response', 'agreeing/agreement'.

It is generally recognized that there are many instances where the so-called action noun of Hebrew takes a form different from the paradigm instances listed above. The most detailed listing of the various forms found for verbs in each conjugation is provided by Ben-Asher (1967, and 1972c, Part One); he gives numerous examples of each morphological pattern which the *šem pəula* version of various verbs happens to take in actual usage. No attempt is made to characterize the notion of action noun in Hebrew beyond a listing of morphological forms, both paradigmatic and anomolous. (One kind of anomaly arises when a verb occurs in one conjugation, while its associated action noun occurs in another.) A basic defect of such morphologically-oriented descriptions is that they fail to account for the fact that a specific morphological shape is neither a necessary nor a sufficient condition for a given nominal to be classed with the set of action nouns, let alone with the set of what we define as "derived nominals" in the ensuing discussion. The inadequacy of any

attempt at a strictly morphological definition of this class is demonstrated in Section 10.3 below.

b) Characterization in Terms of Function and Meaning

Other studies attempt to characterize the action noun in terms of how it is used and interpreted in a given context. Thus Yitzchak Livni points out that the *šem pəula* is "an abstract noun derived from a verb, and a kind of transitional link from verb to noun . . . the action here [in speaking of verbs which can be defined as transitive] is expressed as a process, as a thing which is still happening or in progress: *kcira* 'harvesting', *msira* 'dispatching', *šmira* 'guarding', *ləatiša* 'polishing' [the examples all being of paradigmatic forms for the *paal* or *kal* conjugation – R.B.], their meaning is: the act of the dispatcher, the guard, the polisher" (1941, 26). In this intuitively satisfying characterization, emphasis is on this "part-verb part-noun" as expressing a process or an act – with no mention of other possible interpretations, such as of manner, fact, or state.

The most detailed description of the *šem pəula* in "functional" terms is provided in a series of six articles entitled "The action noun and its meanings" by Abba Bendavid (1956). He follows tradition in (implicitly) taking morphological form as the point of departure for his discussion in which he then subcategorizes the *šem pəula* in terms of its various meanings. Thus, he distinguishes between "the possibility of an action, the action itself, and the result of an action"; between "action and object," "the doing and the done," "state versus process," and between "what has already been done and what is yet to be in the future." Bendavid's listings are useful, for he provides the researcher with a wealth of data; he subclassifies forms which are generally treated uniformly – in terms of the different interpretations associated with a given form in different contexts; and he shows an awareness of the need to characterize such forms not in terms of external morphological shape but conceptually, in terms of such contrasts as: Process/State, Activity/Product, Action/Event. However, these insights are unrelated to any general theory of linguistic description, and no attempt is made to formalize semantic or "functional" distinctions in any explicit fashion. For example, how can an action noun, which is by definition not really a "substantive" term (in the sense used by Lyons 1969, 347), be the name of the concrete product of an action? Bendavid's account, though quite detailed, thus fails to go beyond an impressionistic type of listing with examples.

c) Characterization in Terms of Syntactic Structure

The fact that the items in question are not only related directly to verbs, but that they may be viewed as transformed versions of underlying sentences, is noted by a number of Hebrew scholars. Thus, for instance, Ornan explicitly characterizes an expression such as *yəlalat xatulim* 'whining-of cats' as derived from a base-sentence of the type *xatulim meyaləlim* 'cats whine'; from a base-sentence such as *hamatos hifcic arim* 'the-plane bombed cities' he derives: *mətos hafcaca* 'plane-of bombing = bomber-plane' (where *hafcaca* is an action-noun form), *hafcacat hearim* '(the)bombing-of the-cities' and even *arey hahafcaca* '(the)cities-of the-bombing' (in the sense of the cities which have been or may be bombed); similarly, he derives such nominal expressions as *rəiyat haem et yəladéha* '(the)seeing-of the-mother OM her-children' (in the sense of 'the mother's seeing her children' and/or 'the mother's view of her children'), *haxanat hatalmid et hašiurim* '(the)preparation-of the-student OM the-lessons', *hagašat hamemšala et hacaotéha* '(the)submitting-of the-government OM its-proposals' from their sentential counterparts: *haem roa et yəladéha* 'the-mother sees OM her-children', *hatalmid hexin et hašiurim* 'the-student prepared OM the-lessons', and *hamemšala tagiš et hacaotéha* 'the-government will-submit OM its-proposals', respectively (Ornan 1964, 147-164).

Rubinstein takes a similar view, in the context of his study on copula sentences (1968, 88-89). He further notes that "any transitive verb and the prepositions it governs may be turned into a non-finite [expression]," his concern being primarily with specificational-type copula sentences of the kind *haxašaš hu mi maase nimhar* 'the-fear it (is) of a-hasty-action' or *haktiva hi al məoraot hašavúa* 'the-writing it (is) about the-events-of the-week' where the subject NP is in each case viewed as deriving from verbs such as *xašaš mi* 'be-afraid of' and *katav al* 'write about', respectively.

Rosen also takes note of this process as follows:

> If we try to express in a non-verbal way the context of a linguistic combination [a sentence, etc.] which contains a verb, we generally make use of one of the nouns known as *šemot pəula*, for example: *kvar hodáti ləxa še hakésef huavar* '(I) already announced to-you that the-money was-transferred' can be expressed without using a verb by *huavra al yadi kvar hodaati ləxa al haavarat hakésef* 'was-transferred by me already my-announcement to-you about (the)transferral-of the-money' (1966, 160)

In another context, Rosen notes that a sentence like *sidura et hainyanim masbía racon* 'her-arrangement OM the-matters satisfies wish (=is satisfactory)' is identical to *še hi sidra (məsaderet, təsader) et hainyanim masbía racon* 'that she arranged (arranges, will-arrange) OM the-matters is satisfactory' and also notes the correspondence between *anáxnu modiim al iy-haxnasatéynu et yosef ləxevratéynu* 'we announce (about)- our-non-introduction OM Joseph to-our-group' and *anáxnu modiim (al ze) še lo hixnásnu . . et yosef ləxevratéynu* 'we announce (about it) that not we-have (=we have not) introduced OM Joseph to-our-group' (1962, 258); he also derives such a sentence as *hithavut ašan baxéder məkalkel et haavir* '(the)formation-of smoke in-the-room spoils OM the-air' from a combination of the two sentences: *baxéder mithave ašan* 'in-the-room forms smoke = smoke forms in the room' and *hadavar məkalkel et haavir* 'the-thing=it spoils OM the-air (p. 261).

A similar approach is adopted by Reif who, in considering construct-state noun compounds, defines nominalization as "...the process by which a sentence is transformed for embedding into another sentence ... here, we are restricting the term to the transformation of a non-noun to a noun-form. In effect, this means the nominalization of a verb" (1968, 56). In Chapters Five and Six of his dissertation, Reif tries to show how different types of construct-state *smixut* compounds can be derived from the three basic sentence-types which he considers Hebrew to manifest: N + V, N + V + N, N + V + Prep + N. By this criterion, Reif classifies the verb-derived nouns of Hebrew into various types such as result nominals, fact nominals, agent nominals, etc. Although Reif's view seems to incorporate certain insights of both Bendavid, on the one hand, and Ornan and Rosen, on the other, he fails to provide any motivation – whether formal or otherwise – for the specific subclassification he adopts for different types of verbal nouns. Instead, he dismisses the whole issue in the following terms:

> It should be pointed out that in any particular verb the V_n [that is, the 'verbal noun' according to Reif] may have acquired a meaning narrower or broader than 'verbal noun'. This does not vitiate in any way the explanation of V_{nc} N_s [V_{nc} = verbal noun in the construct state, N_s = noun subject] as being derived directly from the N_sV source sentence. We are dealing here with lexical meanings, and it is precisely this kind of semantic shift which is the factual justification for the concept of the appropriate word (p. 102).

Finally, we might note two somewhat revised and expanded versions of Ben-Asher 1967. In Ben-Asher 1972c, under the heading "Syntactic Functions," a detailed listing is provided of the various contexts in which the *šem pəula* (in effect, a noun phrase with *šem pəula* as head) can occur: as Subject, Predicate, Object, Adverbial, Adjunct, etc. – though no note is made of the fact that these are precisely equivalent to the distributional range of ordinary simplex nominals with non-derived nouns as heads. Ben-Asher 1976 compares these distributions with those of the *šem póal* – the infinitival and gerundive "verbal noun" discussed in Section 9.1 above. These studies provide much that is useful in the way of data, and attempt to consider both the infinitive (never, however, explicitly distinguished from the gerund) and the action noun together. Yet no formal characterization of the precise nature of such constructions is attempted. Besides, unlike the other authors cited in this subsection, Ben-Asher disregards any possible relation these abstract nominals might bear to sentential expressions with their verbal counterparts.

The discussion which follows attempts to account for aspects of the construction in question which seem to have been inadequately handled in the studies noted above: the question of whether and also of how the action nominal should be related to a given underlying structure or set of structures in a motivated and general fashion (Section 10.7); the internal syntactic structure of expressions with derived nominal heads, and the constraints involved in their derivation (Section 10.4); and the semantic issue of how such expressions can or must be understood. It is to this latter question that we address the first part of our analysis of "derived nominals" in Modern Hebrew.

10.2 THE SEMANTICS OF DERIVED NOUNS

Below we consider a number of semantic features which we try to show as both necessary and sufficient for providing a unique characterization of all and only the class of "derived nominals" – labelled by us as V-Nom and A-Nom – in the language.

10.2.1 The Feature of [+ABSTRACT]

Our first claim is that all – though not only – derived nominals must necessarily be [+ABSTRACT]. That is, concrete nouns are automatically excluded from membership in the class under discussion here. Consider, for instance, the underlined expressions below, all of which take the morphological shape of *šem pəula* forms, according to the paradigm listed in (2) above.

(3) (i) a. haknisa (šel zarim) laxacer hi asura
the entrance (of strangers) to the yard is forbidden
'strangers are forbidden to enter the yard'

b. haknisa (laxacer) hi cara miday bišvilo
the entrance (to the yard) is narrow too much for him
'the entrance (to the yard) is too narrow for him'

(ii) a. xitul hatinok naaseyt yoter kaše kše hu gadel
diapering of the baby becomes more hard when he grows
'it gets harder to diaper a baby as he grows bigger'

b. xitul hatinok hu ratov legamrey
diaper of the baby is wet entirely
'the baby's diaper is sopping wet'

(iii) a. hanhagat hamiflaga mufkedet bidey askanim zeirim
leadership of the party is put in the hands of officials small
'the leadership of the party is assigned to petty bureaucrats'

b. hanhagat hamiflaga lo tekabel et haraayon
leadership of the party not will accept OM the idea
'the party leadership won't accept the idea'

The underlined nouns in the (b) sentences are clearly interpretable as "substantive" type concrete nouns (see Lyons 1969, 347): in (i-b) *knisa* is a structure which has physical dimensions such as width; in (ii-b) *xitul* is an object which can get wet, be laundered, etc.; and in (iii-b) *hanhaga* refers to a group of people who can adopt a certain attitude. The same forms as used in the (a) sentences cannot be interpreted as concrete things or persons, but rather as activities or processes.[2]

Such surface morphological neutralization as between "action" nouns and the names of concrete objects is not confined to Hebrew – though the instances in which this occurs will, of course, differ from one language to the next. Thus English *agreement* is both an abstract nominal in a context like "Their agreement to our plan surprised us" (Hebrew *haskama*)

and a concrete noun in "The agreement they signed was submitted in four copies" (Hebrew *heskem*); but English "entering, entrance, entry" are all rendered by *knisa* in Hebrew, and the head-noun in both "John's proving the theorem" and "John's proof of the theorem (took a long time/was written up on the blackboard)" would be *hoxaxa* in Hebrew.

Note, further, that the relation between any "concrete" noun such as those in the (b) sentences above and the corresponding verb is in each case semantically quite idiosyncratic – and this provides clear motivation against considering them as being sententially derived (as we shall try to show in the next chapter). Thus, for instance: from the verb *yacar* 'create, produce' the form *yəcira* can mean '(the act of) creation, creating' or it can be a concrete noun meaning something like 'a work (of art)'; the verb *xiber* 'join, put together' yields both the abstract noun *xibur* as '(the act of) joining, combining' and the homonymous concrete noun meaning 'a composition (submitted by a schoolchild)'; and the verb *yašav* 'sit, dwell' has an action noun in the form *yəšiva*, while this same string can also be the event-noun 'meeting, session' or the place-noun 'school for rabbinical studies'. These examples, together with those in (3-b) above, show clearly that just in case a given verb has a related concrete noun which happens to take the same morphological shape as a *šem pəula*, there is no general way of predicting what the semantic content of that concrete noun will be.

As noted, we return to this latter question in the following chapter. Here we merely note that the notion of "derived nominal" to be characterized in the present context automatically excludes from consideration any noun which has the property of being [+SUBSTANTIVE] – irrespective of morphological shape. We can thus disregard all concrete "non-primitive" nouns (in the sense of nouns related to an extant verb form) which happen to be homophones of words falling into the traditional category of *šem pəula* – according to the forms listed in (2) above. The discussion which follows will thus be confined to only (though not to all) nominals which are [+ABSTRACT].

The question arises, then, why the feature of [+ABSTRACT] is not in itself a sufficient condition for membership in the class of "derived nominals." In Section 10.4.4 below, we show that the latter set can be negated in a quite unique way, thus setting them formally apart from all

the rest of the abstract nouns in the language. Here we note two main subsets of nouns which, while [+ABSTRACT], are excluded from the class of "derived nominals." Firstly, there are denominative forms such as: i) *manhigut* 'leadership' from *manhig* 'leader', *pəkidut* 'civil service, (members of the) bureaucracy, officialdom' from the noun *pakid* 'clerk, official, office-worker' – both collective or group nouns based in turn on agent-nouns; ii) *balšanut* 'linguistics' from *balšan* 'linguist' in turn from *lašon* 'language', *safranut* 'librarianship' from *safran* 'librarian' in turn from *séfer* 'book' – nouns referring to fields of study or occupations; iii) *tvustanut* 'defeatism' from *tvustan* 'defeatist' in turn from *tvusa* 'defeat' (where the latter, derived from the verb *hevis* 'defeat', would itself be included in the set of derived nominals), *harpatkanut* 'adventurousness' from *harpatkan* 'adventurer' in turn from *harpatka* 'adventure' – nouns characterising general attributes of people or things (e.g., *sifrutiyut* 'literariness' from *sifrut* 'literature'). Such nouns – quite generally ending with the suffix *-ut* – are in many cases related to verbal roots, and they are clearly [+ABSTRACT]; but they do **not** fall into the category of "derived nominals" in the very restricted sense assigned to the notion in this context – as described in the section below.

In addition to denominative nouns like these, a second subclass of non-concrete but "non-derived" nouns are those which can be characterized as [+EVENT] (see Section 11.4). We refer to such nouns as *nəsia* '(a)journey', *yəšiva* '(a)meeting' (such as 'a board-meeting, a committee-meeting'), *tiyul* '(a)trip', *siyur* '(a)tour', *hacaga* '(a theater)performance', *harcaa* '(a)lecture', all of which have homophonous action-noun counterparts, as well as others which do not, such as: *acéret* 'assembly', *masa* 'hike', *mofa* 'appearance (of performers)', and so on. As noted, we review this subclass of "verb-related" nouns in Chapter 11; the semantic properties we propose below for characterizing all and only "derived nominals" do not, however, include the notion of Event.

10.2.2 Other Defining Features

Works concerned with the nature of derived nominals in a language such as English (for instance, Bowers 1969, Chomsky 1970, Fraser 1970, Lees 1960, Newmayer 1971a,b) have noted that they are potentially ambiguous – even when their non-abstract homophones (as in the sentences in (3-b) above) are excluded from consideration. Hebrew manifests a very similar situation with respect to verb-derived nominals. Thus:

(4) (i) halixat dan madiga et kulánu
going of Dan worried OM all of us
'Dan's going/walking upsets us all ...'

a. ki anáxnu adáyin zkukim lo
as we still need him

b. ki hu coléa kol kax
as he limps so (much)

c. ki hu xozer aléha midey šavúa
as he repeats it every week

(ii) nehenéynu min haštiya bamsiba
we enjoyed (from) the drinking at the party

a. lamrot še ánu acméynu lo šatínu bixlal
though (that) we ourselves (did)not drink

b. ki (hi) hayta lo mufrézet
as (it) was not overdone

c. še nimšəxa ad habóker
that went on till dawn

(iii) bniyat betéynu hexadaš
building house our the new
'the building of our new house'

a. məafšéret lánu xayim noxim yoter
allows us a more comfortable life

b. hayta mərušélet ubilti mikcoit
was slovenly and non-professional

c. nistayma lo mizman
ended not long ago

In each case in (4), the underlined "action noun" can be variously understood, the contexts provided in (a), (b), and (c) serving to disambiguate its intent: the (a) contexts suit the sense of "the fact that"; the (b) contexts, the sense of "the way or manner that"; and the (c) contexts, the sense of "the process or action of" (the noun *štiya* in (ii) having the additional, non-abstract sense of liquor or beverages that are drunk). These different paraphrases are given below with respect to (4-1) and (4-ii).

(5) (i) a. hauvda še dan halax . . .
the fact that Dan went

b. haófen še dan halax . . .
the way that Dan went/walked

c. hapəula še dan bica kše hu halax . . .
the act that Dan performed when he went

(ii) nehenéynu min . . .
we enjoyed (from)

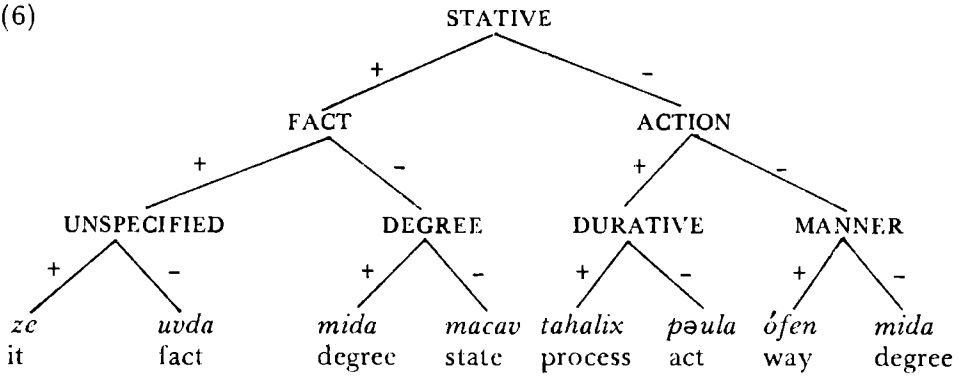
a. hauvda še šatu bamsiba
the fact that (people) drank at the party

b. haófen še šatu bamsiba
the way that (people) drank at the party

c. hapəula/hatahalix šel lištot bamsiba
the act/the process of (to)drink(ing) at the party

Our investigation of the way in which nouns like those underlined in (4) and paraphrased in (5) are interpreted has led us to the following conclusion: Not necessarily all, but only "derived nominals" can have associated with them the nominals listed in the bottom row of (6) below. These in turn precisely capture the unique set of semantic features — the labels on the different nodes of (6) — specifying the set of derived nominals in Hebrew (and, possibly, in languages in general).

(6)



The various possibilities are illustrated below: The (a) sentences contain a potentially ambiguous derived nominal (underlined); the (b) sentences disambiguate the V-Nom by associating it with a head nominal (underlined) in the form of one of the eight items listed in (6); and the

(c) sentences further paraphrase the latter by denominalizing them. (Note that both a literal and a free translation are given only in the case of the (a) sentences – the (b) and (c) sentences being translated quite directly, but not exactly word-for-word.)

(7) (i) a. dan hodía al kavanato laazov
Dan announced about intention his to leave
'Dan announced his intention to leave'

b. dan hodía al ze še kavanato hi
Dan announced (about) (it) that his intention (is)
laazov
to leave

c. dan hodía al ze še hu mitkaven laazov
Dan announced (about) (it) that he intends to leave

(ii) a. ánu nehenim me himacuténu kan itxem
we enjoy from being found our here with you
'we enjoy our presence = being present here with you'

b. ánu nehenim mi uvdat himacuténu
we enjoy from (the)fact of our presence

c. ánu nehenim me hauvda še ánu nimcaim ...
we enjoy from the fact that we (are)present

(iii) a. haclaxaténu badiyunim tluya baracon hatov
success our in the talks depends in the will the good
šelahem
of them
'our success in the talks depends on their good will'

b. midat haclaxaténu badiyunim tluya ...
(the)extent of our success in the talks depends

c. hamida še naclíax badiyunim tluya ...
the extent that we'll succeed in the talks depends

(iv) a. hem šoafim livcirat olam tov yoter
they aspire to creation of world good more
'they aim at the creation of a better world'

b. hem šoafim ləmacav šel yəcirat ...
they aim at(a)state of creation of

c. hem šoafim ləmacav še (bo) yivacer ...
they aim at(a)state that (in it) will be created

(v) a. ze hekel alav bəhištalvuto bamifal
it relieved on him in integration his in the project
'it helped him in getting integrated into the project'

b. ze hekel alav batahalix šel hištalvuto . . .
it helped him in the process of his integration

c. ze hekel alav batahalix šel ləhištalev . . .
it helped him in the process of to integrate

(vi) a. elbon kaze hu kmo trikat délet baparcuf šeli
insult like it he like slamming of door in the face of me
'an insult like that is like slamming a door in my face'

b. . . . hu kmo pəula šel trikat délet baparcuf šeli
(is) like (an)act of slamming the door in my face

c. . . . hu kmo pəula šel (adam) ha torek délet
(is) like (an)act of (a person) that slams the door
baparcuf šeli
in my face

(vii) a. axilato tamid gasa beyoter
eating his always crude the most
'his eating is always extremely crude'

b. ófen axilato hu tamid gas beyoter
(the)way of his eating (is) always extremely crude

c. haófen še hu oxel hino tamid gas beyoter
the way that he eats (it)is always extremely crude

(viii) a. ze bodek histaglutam šel oley hamaarav
it investigates adjustment their of immigrants the west
latnaim kan
to conditions here
'it investigates the adjustment of western immigrants to conditions here'

b. . . . hamida/hadérex šel histaglutam šel
the extent/the way of the adjustment of
oley hamaarav . . .
western immigrants

c. . . . hamida/hadérex še oley hamaarav mistaglim . . .
the extent/the way that western immigrants adjust

Our claim is thus as follows: Any surface occurrence of a "derived nominal" results from an underlying structure in which its semantic content is specified by bundles of features in the form of the node-labels in (6). On the surface, such features may be manifested as actual formatives (such as the words listed in the last row of (6)), which provide a single possible interpretation for the specific occurrence of a derived nominal – as shown in the (b) sentences of (7) above; they may be deleted in the process of nominalization – as in the (a) sentences above; or they may be manifested without any nominalization taking place – generally as the head of *še-* 'that' clauses – as in the (c) sentences above. And in fact, the derivation we shall propose for nominals of the kind in question depends crucially on the assumption of a pro-form head noun which invests the derived nominal with appropriate semantic content – in line with the (b) sentences above – and also on the correspondence of such expressions to *še-* clauses with a finite verb – in line with the (c) sentences above.

This analysis – whereby each surface derived nominal is assumed to have associated with it a specific underlying head nominal – resolves the problem of superficially similar concrete nouns (as noted in Section 10.2.1 and further considered in Section 10.3). Thus:

(8) (i) a. pəulat hamisxak
the act the playing
'the act of playing'

b. *pəulat hamixtav
act of the letter (missive)

(ii) a. tahalix hašmira
process of the guarding
'the process of guarding'

b. *tahalix hasmixa
process of the blanket

(iii) a. macav nicaxon
state of victory

b. *macav xilazon
state of snail

Note that – as depicted in (6) and (7) – derived nominals are associated with some specific semantic content except for one case: the unspecified or impersonal, most neutral or unmarked pronominal *ze*, as shown in the (b) and (c) sentences of example (7-i) above. This pronoun shows up quite regularly in the sentential counterparts of derived nominal expressions – though its use is considered un-Hebrew and redundant by normativists when it occurs in pro-subject position, as in the paraphrases in (i) and (ii) below.[3]

(9) (i) a. halixato hirgíza otánu
his leaving annoyed us

b. ze še hu halax hirgiz otánu
(it) that he left annoyed us

(ii) a. seruva ləhitraayen haya bilti cafuy
her refusal to be interviewed was unexpected

b. ze še hi serva ləhitraayen haya bilti cafuy
(it) that she refused to be interviewed was unexpected

(iii) a. samáxnu al haclaxato bamsima
we were glad about his success in the venture

b. samáxnu al ze še hu hiclíax bamsima
we were glad about it that he succeeded in the venture

(iv) a. etnaged ləhaxlatatam lifroš
I'll oppose (to) their decision to resign

b. etnaged ləze še yaxlítu lifroš
I'll oppose to it that they decide to resign

A Hebrew derived nominal with an underlying *ze* as its head (as illlustrated in (7-i) above) is semantically closest to the gerundive *-ing* nominal of English — as shown by the use of the Poss-*ing* complement in footnote 3 above; like the gerundive of English, it has a clearly factive interpretation, and can accordingly quite generally be replaced by the semantically more highly specified noun *(ha)uvda* '(the)fact'.[4] Of all the items listed in the last row of (6), *ze* alone cannot show up on the surface in conjunction with a derived nominal: compare *uvdat halixato* '(the)fact-of his-going', *midat hitnagduta* '(the)extent-of her-opposition', *pəulat prišatam* '(the)act-of their-resigning', etc. with **ze halixato, *ze hitnagduta, *ze prišatam*. Moreover, *ze* can typically be deleted to yield the following versions (preferred in formal, normativist style) of the (b) sentences of (9).

(10) (i) še hu halax hirgiz otánu
that he left annoyed us

(ii) še hi serva . . . haya bilti cafuy
that she regused . . . was unexpected

(iii) samáxnu al še hu hiclíax bamsima
we were pleased about that he succeeded in the venture

(iv) etnaged še yaxlítu lifroš
I'll oppose that (they)decide to resign

Note, next, that the pro-forms underlying expressions with derived nominals are not necessarily a consequence of the semantic properties of the verb itself, but rather of the import of the nominalized proposition as a whole. Thus, for instance, a verb such as *halax* 'go, walk' may be listed in the lexicon as inherently [+ACTIVE] = [-STATIVE] – yet, in case of nominalization, one can refer not only to 'the act of walking' but also to 'the fact of walking' and even to 'the state of (someone's) walking'. On the other hand, it does not seem feasible to give an "action" interpretation to nominals derived from verbs which are inherently [+STATIVE]. Thus:

(11) (i) a. pəulat harətia mi . . .
(the)act of recoiling from

b.*pəulat haslida mi . . .
(the)act of aversion from

(ii) a. hapəula šel ləmidat X
the act of learning X

b.*hapəula šel yediat X
the act of knowing X

(iii) a. hapəula šel hokaat X
the act of denouncing X

b.*hapəula šel sinat X
the act of hating X

A related constraint is one which applies to A-Nom's, that is, to nominals derived from Adjectives, where the latter are quite generally inherently [+STATIVE]; thus:

(12) (i) a. uvdat gasuto/xulšato
(the)fact of his crudeness/his weakness

b. macav gasuto/xulšato
(the)state of his crudeness/his weakness

c. midat gasuto/xulšato
(the)degree of his crudenss/his weakness

(ii) a. *pəulat gasuto/xulšato
(the)act of his crudeness/his weakness

b.*tahalix gasuto/xulšato
(the)act of his crudeness/his weakness

c.*ófen gasuto/xulšato
(the)manner of his crudenss/his weakness

These constraints are predicted by the cross-classification proposed in (6) above, where [+STATIVE] can dominate the pro-forms Fact, Degree, and State, but not Process, Act or Manner.

The semantic properties of the class of derived nominals – labelled here as V-Nom and A-Nom – are thus uniquely definable in terms of the obligatory feature [+ABSTRACT] (Section 10.2.1) in conjunction with appropriate combinations of the features charted in (6) of this section. What we are claiming, in effect, is that only nominal expressions which derive from underlying sentential propositions can constitute adjuncts[5] to such head nouns as: Fact, Degree or Extent, State, Process, Act, and Manner or Way. And it is these head nouns which define their overall semantic import, their specific or idiosyncratic semantic content being a product of the meaning of the verb or adjective from which they are derived. Thus, a noun like *hištalvut* 'integrating/integration' has all the same semantic properties and selectional constraints as does the verb *hištalev* and, moreover, it is [+NOMINAL] (a syntactic property the consequences of which are considered in Sections 10.4 to 10.7 below), [+ABSTRACT] as well as, say [+ACTIVE], combined with [+DURATIVE] – to yield the specific interpretation of '(the process of)integrating/integration', as illustrated in (7-v) above.

10.3 MORPHOLOGICAL PROPERTIES

The most peculiar morphological feature of derived nominals in Hebrew may be summed up as follows: The class of V-Nom consists of nouns (and the discussion in the sections which follow shows quite conclusively that V-Noms do belong to the lexical category N in Hebrew) which can and quite generally do have associated with them morphological patterns otherwise characteristic only of verbs – namely, the different *binyan* forms (see Sections 3.3.1 and 3.3.2). This morphological connection between V-Noms and the verb-system of Hebrew is clearly shown in the paradigm represented in (2) above, where V-Nom forms are listed according to *binyan* pattern. The interesting thing is that no other nouns in Hebrew can be identified in terms of the restricted set of *binyan* patterns discussed in Section 3.3 earlier in this volume,[6] while all verb-forms in the language can – in fact must – occur in a given *binyan*. Morphologically speaking, then, V-Noms are nouns which retain overt traces of their verbal origin – a claim which we have tried to show is semantically correct (Section 10.2) and which likewise applies in terms of syntactic patterning (Sections 10.4 and 10.5).

On the other hand, however, the fact that a noun has the surface shape of one of the *binyan*-linked paradigmatic forms listed in (2) above does not suffice to include it in the category of V-Nom (as is shown in Section 10.2.1 above). Moreover, characterization in terms of a given *binyan* pattern is not even a necessary condition for assigning a given nominal to the category of V-Nom for – as we try to demonstrate in this section – the latter manifest many morphologically anomalous forms which cannot be directly or automatically associated with a given *binyan* and hence with a given verb-form. In other words, then, morphological pattern is neither a sufficient nor a necessary criterion for specifying a given construction as a derived nominal.

Note that the preceding comments do not take any account of the class of derived nominals which we have labelled A-Nom – that is, nouns deriving from underlying adjectives rather than verbs. In traditional Hebrew morphology, adjectives are described as belonging to the set of nominal *miškal* patterns (see Section 3.3.3), in keeping with the custom of identifying them, not only morphologically but also syntactically and lexically, with the nominal system of the language. The precise range of forms taken by adjectives in Hebrew need not concern us here;[7] what is relevant is the fact that their associated nominals manifest a quite unpredictable and morphologically- (though not necessarily phonologically-) irregular type of patterning, as illustrated below;

(13)		NOMINAL	ADJECTIVE
(i)	CVC	*xom* 'heat'	*xam* 'hot'
		tuv 'goodness'	*tov* 'good'
(ii)	(C)óCVC	*róxav* 'width'	*raxav* 'wide'
		ósher 'riches, wealth'	*ašir* 'rich, wealthy'
(iii)	CuCCa	*xumra* 'severity'	*xamur* 'severe'
		xulša 'weakness'	*xalaš* 'weak'
(iv)	-ut	*rəcinut* 'seriousness'	*rəcini* 'weak'
		mətikut 'sweetness'	*matok* 'sweet'
		paštut 'simplicity'	*pašut* 'simple'
		axrayut 'responsibility	*axray* 'responsible'

Note that the English glosses for the above Noun/Adjective pairs manifest a similar morphological irregularity. The specific shape taken by a given A-Nom seems, thus, to be a matter of lexical accident; that is, A-Noms are morphologically quite unpredictable. V-Noms also manifest numerous morphological irregularities, but they differ from A-Noms in the

sense that these anomalies can be viewed as deviations from a set *binyan*-based paradigms -- as shown in (2).

Below we indicate some ways in which nominals which, given the appropriate context, can potentially be used in the sense of a derived, abstract noun as semantically characterized in Section 10.2 above, that is, which meet other criteria of being considered V-Noms, fail to conform to the morphological paradigm shown in (2). Note that all such occurrences will need to be specified as unpredictable, idiosyncratic information in the lexicon.

a) Some V-Nom forms differ **phonetically** from what is expected according to the listing in (2). Thus, for instance, for verbs in the *binyan kal* B-1 conjugation, Ben-Asher 1967 lists nine variations in addition to the paradigmatic {CCiCa} pattern, with a further seven possibilities in addition to the regular {CiCa} pattern for verbs in this conjugation whose second root consonant is the glide /y/ or /w/. This kind of alternation is illustrated in (14) below, where the forms in (a) are those which actually occur, those in (b) their "regular," and phonetically perfectly plausible, counterparts.

(14)

ROOT	a.		b.
g–n–b	*gneva*	'theft, stealing'	**gniva*
t–r–ħ	*tirxa*	'bother, laboring'	**trixa*
d–?–g	*dəaga*	'worry(ing)'	**dəiga*
p–ʿ–l	*pəula*	'action'	**pəila*
ʿ–b–d	*avoda*	'work'	**avida*
s–n–?	*sina*	'hatred'	**snia*

Note: Where less than three consonants are indicated in a given form, this is due to the non-pronunciation of the low or "guttural" consonants of the root (see Section 2.3.1).

This kind of irregularity is less evident in the typically intransitive *binyan* patterns -- *nifal* and *hitpael* -- which take an *-ut* nominalizing suffix in the action noun form {hiCaCCut} and {hitCaCCut}, respectively. Verbs in these patterns will very generally have nominals in the expected, regular form.

Nor need examples like those in (14) represent great difficulties for the lexicon. They could simply be represented as (phonetically) exceptional forms, their surface shape being characterized by special entries -- illustrated informally below:

(15) {'–b–d + B-1} – V-Nom: i → o
{s–n–? + B-1} – V-Nom: C_2 + i → i + C_2

b) A more difficult problem arises when a given verb has more than one *šem pəula* or derived, abstract noun form. Each nominal form has its own rather restricted meaning; but meaning *x* is not necessarily associated with pattern *a*, meaning *y* with pattern *b*, etc., in any regular fashion. Thus, for instance, it would be satisfying to show that all the forms listed in (a) below have an "active" sense, those in (b) a "stative" sense; or that those in (a) are abstract, those in (b) concrete, etc. But these correspondences between form and content do not accord with the facts of how these words are actually interpreted by speakers – as shown roughly in the glosses.

(16) (i) *paal* B-1 Conjugation, Paradigm Form: {CCiCa}

	a.		b.	
š–?–l	*šəila*	'borrowing'	*šəela*	'question'
q–w–m	*kima*	'getting up'	*tkuma*	'revival'
š–w–b	*šiva*	'return(ing)	*tšuva*	'answer, response'

(ii) *piel* B-3 Conjugation, Paradigm Form: {CiCuC}

	a.		b.	
d–k–y	*dikuy*	'suppression'	*dikaon*	'depressedness'
n–c–ħ	*nicúax*	'conducting'	*nicaxon*	'victory'
n–s–y	*nisuy*	'experiment'	*nisayon*	'attempt(ing)'
b–q–š	*bikuš*	'demand (vs. supply)'	*bakaša*	'request(ing)'
s–k–n	*sikun*	'risk(ing)'	*sakana*	'danger'
k–w–n	*kivun*	'direction=way'	*kavana*	'intention, meaning'

(iii) *hifil* B-5 Conjugation, Paradigm Form: {haCCaCa}

	a.		b.	
m–š–k	*hamšaxa*	'continuing'	*hemšex*	'continuation, sequel'
g–b–l	*hagbala*	'limitation'	*hegbel*	'constraint'
			migbala	'disadvantage'
s–k–m	*haskama*	'agreement'	*heskem*	'accord, treaty'

c) A third kind of morphological irregularity arises when the paradigm listed in (2) is violated as follows: a verb which occurs in one *binyan* conjugation has its corresponding nominal in another *binyan*. This kind of crisscrossing, which is very common, is shown below.

(17)

VERB FORM			NOMINAL FORM		
B-1	*rakad*	'dance'	B-3	*rikud*	'dance, dancing'
	šafat	'judge'		*šiput*	'judgment'
B-3	*kibes*	'launder'	B-1	*kvisa*	'laundering'
	higer	'migrate'		*hagira*	'migration'
	nimek	'argue(a point)'	B-5	*hanmaka*	'argumentation'
	kiven	'guide'		*haxvana*	'guidance'
B-2	*nixnas*	'enter'	B-1	*knisa*	'entrance'
	niršam	'register'	B-5	*haršama*	'registration'

Again, there is no phonological basis to such alternations; thus *himer* 'gamble' has the expected V-Nom form *himur*, though *higer* 'migrate' has the V-Nom *hagira* and not the phonetically feasible **higur*; and while *nitkal* 'encounter' has the expected B-2 nominal form *hitaklut*, never the B-1 **tkila*, the contrary is true of *nixnas* 'enter' – *knisa* but not **hikansut*. Such irregularities – often due to historical developments – can probably best be handled along the lines suggested in (15) above: as idiosyncratic, lexical violations of the paradigm cases listed in (2).

A related, but more complicated problem is one which combines the two types of irregularities noted in this section and in the preceding one – as illustrated in (17) and in (16) above, respectively. These are cases of dual forms, where a given verb has an associated nominal both in the same *binyan* pattern and in another, and where each nominal represents a semantic specialization which cannot be predicted by morphological form. Thus, for instance: in addition to the older *šiput* for *šafat* 'judge' as shown in (17), the "regular" noun form *šfita* has recently come into use in the general sense of '(the act of)judging'; *rašam* in B-1 'write, note down' has both the expected *rəšima* in the (non-action, concrete) sense of '(a)list' and the B-3 nominal form *rišum* in the sense of 'listing, registration'; and *akav* B-1 'follow, pursue' has both the expected nominal *akiva* and the B-3 nominal form *ikuv* – and native speakers are hard put to characterize the difference between the two. Finally, a verb like B-3 *nimek* 'argue(a point), reason' has both the expected nominal form for the non-action noun *nimuk* '(an)argument, (a)reason' and the B-5 form *hanmaka* for 'argumentation, reasoning' – as shown in (17) above.

This last set of forms relates to the question of homophonous [+CONCRETE] nouns discussed in 10.2.1 above. If we disregard the latter set entirely, the various manifestations of so-called "action" noun forms considered in the present section indicate that the clear-cut cases illus-

trated in (2) above represent merely one subset – the lexically unmarked, predictable subset – of the entire class of nouns traditionally termed *šem pəula* in Hebrew grammars. These unmarked forms have the following properties: (i) they are phonetically regular (unlike those shown in (14), for instance; (ii) they are morphologically regular – unlike those shown in (16) and (17), for instance; and (iii) they have the semantically "regular" properties of derived nominals outlined in Section 10.2 above. In semantic terms, note that this class includes forms **not** traditionally associated with the notion of *šem pəula* – typically, stative nouns ending in suffixal *-on* such as those listed in (16-ii,b) above. In morphological terms, it seems that there is no choice but to treat all instances of V-Nom other than the unmarked, regular subset noted above as part of Hebrew "derivational morphology";[8] that is, the surface shape of any given V-Nom lying outside the paradigm in (2) requires to be specified as part of the individual lexical entry for that nominal and/or its associated verb-form.[9]

10.4 INTERNAL PHRASAL STRUCTURE

This section is concerned with the surface syntactic patterning of nominal expressions having a derived nominal – V-Nom or A-Nom – as their head. Below we consider briefly how such constructions are formed and what constraints apply to them in terms of: i) *smixut* genitive constructions, ii) complements of V-Nom and A-Nom; iii) modifiers of V-Nom and A-Nom; and iv) negation of V-Nom and A-Nom. What we try to show – as summed up in Section 10.4.5 below – is that the derived nominal of Hebrew has, in a sense, a "dual" character: While in nearly every respect clearly noun-like, it yet retains surface traces of its verbal or adjectival source, manifesting syntactic properties which set it apart from all other nouns in the language. Moreover – and this is a point we discuss in more detail in Section 10.6 below, when comparing V-Noms and Gerunds – the V-Nom of Hebrew incorporates within a single form properties of **both** the so-called factive or gerundive nominal of a language like English **and** its action or derived nominal (as summed up in Stockwell *et al.* 1973, 1-8 and 505-510). That is, for example, in relation to the verb *kalat* 'absorb' and its object *haolim* 'the immigrants', the derived nominal expression *klitat haolim* could stand for either the gerundive 'absorbing the immigrants' **or** 'the absorption of immigrants'; and *dan sone et rina* 'Dan hates OM Rina' could yield the single *sinat dan lərina,* literally 'hate(Nom) Dan to-Rina' standing for both 'Dan's hating(of) Rina' **and** 'Dan's hatred of/for Rina'.

10.4.1 *SMIXUT* Genitive Constructions

A clearly noun-like property of V-Noms and A-Noms in Hebrew is that they can occur as both the head and the adjunct element of noun compounds and other genitive constructions (see Chapter Seven in general for a characterization of these notions; for discussion of the patterning of derived nominals in relation to such constructions, see Sections 4.3.3, and 4.3.4, and 7.2.2d). Here we merely sum up some of the most relevant observations noted earlier.

Firstly, notice the fact that noun modifiers (with the possible exception of quantifiers) typically follow their head nouns in Hebrew. Hence, the "adjunct" or modifying noun of a genitive construction will also follow its head. This is possible even where the head is a derived nominal because of the following fact: Under nominalization, the normal surface word order of SV(O) is typically changed to VS(O). Compare the (a) and (b) versions below:

(18) (i) a. dan halax (habáyta)
Dan went (home)

b. halixat dan habáyta
going-of Dan home
'Dan's going home'

(ii) a. hu hexlit laazov
he decided to leave

b. haxlatat+o laazov
decision+his to leave
'his decision to leave'

(iii) a. hamacav xamur
the situation (is) severe

b. xumrat hamacav
severity-of the-situation
'the severity of the situation'

(iv) a. hi axrait lamsiba
she (is) responsible for the party

b. axrayut+a lamsiba
responsibility+her for the party
'her responsibility for the party'

The sign ⌐ above indicates that the relation between the head-noun, the derived nominal (V-Nom in the first two (b) expressions, A-Nom in the latter two), and its underlying Subject nominal is one of a "bound" *smixut* genitive (see Section 7.1). Note that if this latter nominal, the "adjunct" of a genitive expression, is a personal pronoun, it will be enclitically suffixed to the head noun (indicated by the plus-sign in *haxlatato* in (ii-b) and in *axrayuta* in (iv-b) above). Thus, the derived nominal is essentially noun-like in that it can take genitive adjuncts and "possessive-type" nominal suffixes.

The following additional remarks (in part a restatement of points noted earlier in Sections 4.3 and 7.2.2) are relevant here. Firstly, this "permutation" of S⁀V to V+Nom⁀S applies uniquely to derived nouns as illustrated in (18) and to the class of what we have termed gerunds in Hebrew (see Section 9.2). Secondly, as already noted in some detail, the normal S⁀V⁀O order can be further permuted to V+Nom⁀O⁀S, as shown in examples (c) below:

(19) (i) a. dan azav et rina
Dan left OM Rina

b. azivat⌐ dan et rina
leaving-of Dan OM Rina
'Dan's leaving of Rina'

c. azivat⌐ rina al ydey dan
leaving-of Rina by Dan
'Rina's being left by Dan'

(ii) a. hem hiskíru et hadira
they rented OM the flat

b. haskarat⌐+am et hadira
renting+their OM the flat

c. haskarat⌐ hadira al yadam
renting-of the flat by them

} 'their renting of the flat'

However, as shown in the sections noted above, this second permutation is possible only if the verb undergoing nominalization takes a so-called "direct object" – that is, it governs the preposition *et* and no other. As noted earlier, the genitive particle *sel* 'of' is not used to link underlying objects with their nominalized main verb. Either the typically verbal object-marker *et* is retained (compare the examples in (19-b) above with the corresponding English 'Dan's leaving/abandonment *of* Rina', 'their renting *of* the flat' and also, say, 'the absorption *of* immigrants', etc.), or

else the preposition governed by the underlying verb (or adjective, as shown by (18-iv) above) is kept under nominalization. Thus:

(20) (i) a. dan paraš me haavoda
Dan retired from the job
b. prišat dan me haavoda
Dan's retirement from the job

(ii) a. hu tipel ba baaya
he treated (in) the problem
b. tipul+o ba baaya
his treatment in=of the problem

(iii) a. ánu nitgaber al haetgar
we will overcome (on) the challenge
b. hitgabrut+énu al haetgar
our overcoming on=of the challenge

(iv) a. hem mašlimim im hauvda
they accept (with) the fact
b. hašlamat+am im hauvda
their acceptance with=of the fact

What emerges, then, is the following situation: V-Noms enter into a typically nominal construction as the heads of bound *smixut* genitives, but manifest traces of their sentential source in that they require the same prepositional marker to be retained. This means that a very noun-like construction may even contain such a clearly verbal marker as *et* – as shown in (19) above. (Note, incidentally, that adjectives – and also verbs in the typically "intransitive" *binyan* patterns *nifal* and *hitpael* – may govern any preposition other than the accusative marker *et*.) However, in colloquial usage, speakers seem to find such expressions as those in (19-b) – while strictly speaking "grammatical" – in some sense awkward, unnatural, or archaic (the latter epithets having been used by native informants in this connection). Quite typically, some periphrastic version will be preferred in more casual and less formal style – for instance, by having the object immediately follow the derived nominal and then using the agent marker *al ydey*, as in the examples in (19-c) above.[10]

Nonetheless, both V-Noms and A-Noms can and regularly do occur in conjunction with the nominal marker *šel* 'of' in cases of non-bound genitive constructions, as described in Section 7.1 and as briefly illustrated below.

(21) (i) a. hitnagdut dan laraayon
opposition-of Dan to the idea
'Dan's opposition to the idea'

b. hahitnagdut šel dan laraayon
the opposition of Dan to the idea

c. hitnagdut+o šel dan laraayon
opposition his of Dan to the idea

(ii) a. bniyat habáyit al ydey kablan
building-of the-house by contractor
'the building of the house by a contractor'

b. habniya šel habáyit al ydey kablan
the building of the house by (a)contractor

c. bniyat+o šel habáyit al ydey kablan
building its of the house by (a)contractor

(iii) a. xumrat hamacav
severity-of the-situation
'the severity of the situation'

b. haxumra šel hamacav
the severity of the situation

c. xumrat+o šel hamacav
severity its of the situation

In this respect, then – i.e., the ability to act as head of a bound, a free, and a double kind of genitive construction, respectively – and in all others, such as definiteness marking, morphological form, conjoining, etc. as discussed in Sections 7.3 to 7.6, V-Noms and A-Noms alike behave just like any non-derived noun of the language. The one exception we noted in Section 7.2.2d in this connection was the rarity of having derived nominals as the adjunct element of a double type of genitive. But this constraint, too, seems to be a matter of accepted usage rather than of strict grammaticality.

10.4.2 Complementation

Derived nominals are like their underlying verbs or adjectives in that they can be either intransitive or transitive. In the latter case, they will typically allow the same kinds of complements. Thus:

(22) (i) Direct Object

a. dan azav et rina
Dan left OM Rina

b. azivat dan et rina
leaving Dan OM Rina
'Dan's leaving (of) Rina'

(ii) Oblique Object

a. hem yadúnu banose
they will discuss (in)the subject

b. diyunam banose
their discussion in=of the subject

(iii) Infinitival Phrase

a. hem yuzmənu ləhictaref
they will be invited to join

b. hazmanatam[11] ləhictaref
their invitation to join

(iv) *that*-Clause

a. dan yada še ze yikre
Dan knew that it would happen

b. yədiat dan še ze yikre
knowledge Dan that it would happen
'Dan's knowledge that it would happen'

This overt correspondence between the complements taken by a verb or adjective and by the related V-Nom or A-Nom in each case is yet another instance in which the latter manifest clear trace of their sentential source, hence differing from any other, non-derived nouns in the language. Note, however, that these derived nominals may quite often occur without any complement at all, even when the related verb is clearly transitive. Compare, for instance:

(23) (i) a. dérex nihulo et misrado lo nireyt li
way management his OM office his not seem to me
'his method of managing his office does not look good to me'

b. dérex nihulo lo nireyt li

c. hadérex še hu mnahel et misrado lo
the way that he manages OM his office (does)not
nireyt li
look good to me

d. *hadérex še hu mnahel lo nireyt li

(ii) a. ánu zkukim litmixatam bəhacaaténu
we need to support their in proposal our
'we need their support of/for our proposal'
b. ánu zkukim litmixatam
c. ánu zkukim ləze še (hem) yitməxu bəhacaaténu
we need to it that they will support in proposal our
'we need them to support our proposal'
d. *ánu zkukim ləze še hem yitməxu

As the examples show, the derived nominal *nihul* and *tmixa* can occur both with and without apropriate complements – in this case, the direct object *et misrado* in (i-a) and the oblique object *bə+hacaatenu* in (ii-a) – whereas the corresponding verbs *mnahel* and *yitməxu* must retain these complements on the surface – as evidenced by the deviance of the (d) sentences above.

This potential "loss of complement," then, makes derived nouns more like ordinary nouns than like their underlying transitive verb or adjective. Within the context of the single sentence, of the kind illustrated in (b) of (23), such complements would presumably be deletable just in case they had the property of being [-SPECIFIED]. Thus, (23-i,b) gives no overt indication of what the object of *nihul* 'management' is, nor does (23-ii,b) specify what it is we want them to support (us) in. The question of the deletion of unspecified NP's in general – by no means typical of Hebrew alone – has been relatively neglected in generative-grammar studies. Here we note just two features of the problem which need to be taken into account. Firstly, the notion of "non-specified" is not absolute, for derived nouns like 'management' and 'support' can, in principle, have only a restricted range of semantically appropriate complements (precisely those complements which are appropriate for their related verbs or adjectives) – so that not just "any" NP is assumed to have been deleted. Secondly, the precise reference of the deleted complement is assumed known to both speaker and hearer – in terms of the general context of the speech act or of the explicit linguistic context of anaphora in preceding parts of the discourse.[12]

There is one set of verbs whose nominalization involves a rather special kind of complement deletion. These are related to the traditional class of *verba dicendi*, verbs of thinking and saying which, like their nominalized counterparts (e.g., *haxlata* 'decision', *hacaa* 'proposal', *kavana*

'intention', *bakaša* 'request', *driša* 'demand', *tikva* 'hope', etc.), take sentential complements. Thus:

(24) (i) a. haxlatato lifroš haflía et kulam
his decision to retire amazed OM everyone

= b. (hauvda) še hu hexlit lifroš hiflí(a) et kulam
(the fact) that he decided to resign amazed OM everyone

c. haxlatato hiflía et kulam
his decision amazed OM everyone

= d. ma še hu hexlit hifli et kulam
what (that) he decided amazed OM everyone

(ii) a. dan toe bəhanaxato še naskim
Dan errs in his assumption that we'll agree

= b. dan toe bəze še hu maníax še naskim
Dan errs in(it) that he assumes that we'll agree

c. dan toe bəhanaxato
Dan errs in his assumption

= d. dan toe bəma še hu maníax
Dan errs in what (that) he assumes

Where the complement is retained under nominalization, as in the (a) sentences, it is paraphrasable by a corresponding *še-* 'that' clause – as in the (b) sentences; where the complement is deleted, as in the (c) sentences, the interpretation is not 'the **fact** that he decides or assumes something' but rather 'the **thing** that he decides or assumes', as shown in the (d) sentence paraphrases. Again, this is not a situation peculiar to Hebrew, but a property of this particular semantic class of verbs. Moreover, as in the instances of unspecified complement deletion illustrated in (23) above, the corresponding verbs **cannot** generally undergo complement deletion. That is, such expressions as *hu hexlit* 'he decided' or *dan maníax* 'Dan assumes' do not constitute independent sentences. Here again, the V-Nom manifests a loss of structure when compared with its underlying sentential source.

10.4.3. **Modification**

Derived nominals reflect their sentential source in the kind of adverbial modifiers associated with them, as illustrated below:

(25) (i) PLACE: LOCATION & DIRECTION

a. hityašvutam bamidbar moxixa še . . .
their settling in the desert proves that

b. haxzaratam árca šel akademáim
(the)bringing back to Israel of academics

c. hocaat hakoc mə haécba šelo
(the)extraction-of the thorn from his finger

(ii) TIME

a. yəciato (me habáyit) bəxacot
his going out (from home) at midnight

b. hištayxuténu lamiflaga kayom
our belonging to the party today

c. xakirato lo mikvar šel éšet hexašud
his interrogation not long ago of the suspect's wife

(iii) MANNER, DEGREE

a. knisato pitom ləxugim kaéle
his entrance suddenly to such circles

b. prišato bəxavod min hatafkid
his retirement honorably from the job

c. hitkabluta bəxazara lakvuca
her acceptance back into the group

d. hašlamatam bəhadraga im hamacav
their acceptance gradually with=of the situation

These examples all reflect very directly the related sentential source, where the verbs from which the V-Noms are derived would be modified by exactly the same kind of adverbials as those underlined in (25) above.[13] Two special constraints need, however, to be mentioned in this connection.

Firstly, the class of Time-Adverbials illustrated in (ii) above seem to be restricted to punctive expressions, (including, for instance, *émeš* 'last night', *bərešit hašana* 'at the beginning of the year', *lifney yomáyim* 'two days ago', *bašana šeavra* 'last year', and so on); Time-Adverbials with a durative sense – like *adáyin* 'still', *kvar* 'already', *tamid* 'always', *kol hazman* 'all the time, constantly' – seem to block nominalization.[14] Thus, the nominals in (b) below are considered odd – as against their perfectly well-formed sentential counterparts in (a) as well as the possibility of precisely the same nominals showing up in expressions which have punctive Time-Adverbs like those in (ii) above.

(26) (i) a. hu yošev adayin bakéle
he (is)sitting still in prison

b.?yəšivato adáyin bakéle

(ii) a. hamanhigim holxim kol hazman batélem
the leaders go all the time in the same rut

b.?halixat hamanhigim kol hazman batélem

(iii) a. hem siymu kvar et hapérek
they have finished already OM that chapter

b.?siyumam kvar et hapérek

Note that the (b) expressions would not be improved if the underlined adverbial were brought round to the end, but they are all perfectly well-formed when the adverbial is deleted. Thus durative adverbials of this type seem to be peculiarly associated with verbs rather than with their corresponding derived nominals.

A second point worth noting is the following: Derived nominals in Hebrew are a class of their own in that they can be modified both by Manner or Degree Adverbs of the kind shown in (25-iii) above and by the corresponding adjectives. This duality is shown in the (b) and (c) examples below, by contrast with the obligatory occurrence of the adverbial in the source-sentence of version (a). (Note that adjectives always follow their head-nouns in Hebrew, so that the order of elements in the (c) examples below would be the same if the head noun were a concrete or non-derived noun, also.)

(27) (i) a. hu paraš bəxavod min hatafkid
he retired honorably from the job

b. prišato bəxavod min hatafkid
his retiring honorably from the job

c. prišato hamexubédet min hatafkid
his retiring the honorable from the job
'his honorable retirement from the job'

(ii) a. hu nixnas pitom el hamisrad
he entered suddenly to the office

b. knisato pitom el hamisrad
his entering suddenly to the office

c. knisato hapitomit el hamisrad
his entering the sudden to the office
'his sudden entrance to the office'

(iii) a. hem mašlimim bəhadraga im hamacav
they accept gradually (with) the situation

b. hašlamatam bəhadraga im hamacav
their accepting gradually (with) the situation

c. hašlamatam hahadragatit im hamacav
their accepting the gradual with the situation
'their gradual acceptance of the situation'

The (a) and (b) versions – sentential and nominalized respectively – are identical with respect both to the adverbial modifier underlined in each and to complement structure (as discussed in the preceding section). The (c) version differs only in that it has a strictly nominal kind of modifier – an adjective – which agrees with the derived-nominal head N in number, gender, and definiteness. (The fact that all three derived nominals above have genitive suffixes replacing the underlying Subject pronoun makes them [+DEFINITE], and hence the occurrence of the definite marker *ha-* on all three adjectives: *hamexubedet, hapitomit, hahadragatit.*)

Note that the different glosses assigned to the nominals in (b) and (c) imply a distinction not overtly manifested in the form of the V-Nom in Hebrew: compare *prišato* with English 'his retiring (honorably)' vs. 'his (honorable) retirement', *hašlamatam* with 'their (gradually) accepting' vs. 'their (gradual) acceptance'. This distinction between the more verbal gerund and the more nominal action-noun – often though not only manifested in a language like English in the contrast between the *-ing* form and some other morphological derivative – is shown in Hebrew only when a choice is possible between the verb-like adverbial modifier and the noun-like adjectival one. This situation is illustrated below:

(28)		ENGLISH	HEBREW
(i)	a.	his proud resistance to X	amidato hagea bifney X
	b.	his resisting X proudly	amidato bəgaava bifney X
(ii)	a.	his thorough knowledge of X	hakarato hayəsodit et X
	b.	his knowing X thoroughly	hakarato biyəsodiut et X

These examples pinpoint another aspect of the peculiar duality of the V-Nom of Hebrew: The underlying complement structure (as discussed in the preceding section) is retained even when the derived nominal is used in a more nominal sense with the adjective, as in (a) above. And hence it is that a strictly nominal modifier, an adjective, can occur in just the same context as a strictly verbal complement, an NP with the *et* object marker.

The following examples could, but need not, occur with more verbal modifiers, in the form of the Manner Adverbs corresponding to the adjectives underlined below.

(29) (i) hakarato hayəsodit et baayot haezor
his knowledge the thorough OM problems the region
'his thorough knowledge of the region's problems'

(ii) tfisato hacara šel hayisraeli et yahadut haolam
his perception the narrow of the Israeli OM Jewry the world
'the Israeli's narrow view of world Jewry'

(iii) ginuya haarsi šel haitonait et hapakid
her denunciation the virulent of the journalist OM the official
'the journalist's virulent denunciation of the official'

Such expressions as the above do actually occur (commonly in newspaper style), but, as noted in the preceding section, they are viewed as awkward even where no adjective occurs. One way in which speakers tend to avoid the conjunction of verbal and nominal features in such expressions is by using the underlying head nouns noted in Section 10.2.2. Thus (iii) above might be rendered by: *hacura haarsit šel ginuya...* 'the virulent form of her denunciation...', etc.

Note, finally, that where the V-Nom is modified by an adjective, the normal N⌒A word order is obligatory. This constraint does not apply, however, to the corresponding adverb, as shown below with respect to the examples in (28) and (29):

(30) (i) a. amidato hagea bifney X
his proud resistance before=to X

b. *amidato bifney X hagea

c. amidato bəgaava bifney X
his resisting proudly (to) X

d. amidato bifney X bəgaava

(ii) a. hakarato hayəsodit et baayot haezor
his thorough knowledge (of) the region's problems

b. *hakarato et baayot haezor hayəsodit

c. hakarato bəofen yəsodi et baayot haezor
his knowing in a thorough way OM the region's problems

d. hakarato et baayot haezor bəófen yəsodi

The deviance of the examples in (b) is due to a very general constraint on Hebrew word order: within a given NP, Adjectives must immediately follow the head N which they modify.[15] In this sense, then, V-Noms are again typically noun-like. No such constraint applies to Manner Adverbials which can, but need not, appear immediately after the verb they modify – hence both (c) and (d) above are acceptable, the difference being one of focus and not of well-formedness. This, in turn, reflects the word order of elements possible in the underlying sentence, too, for both *hu makir bəófen yəsodi et baayot haezor* and *hu makir et baayot haezor bəófen yəsodi* are possible versions of 'he knows the region's problems thoroughly'.

Note, finally, that A-Noms are more constrained than V-Noms with respect to modification. Specifically, they require Adjectives and disallow (Degree) Adverbs – as shown in (b) compared with (c) below. An adjective can be modified by an adverb under nominalization just in case it is the copula which is nominalized and not the adjective itself, as shown in (d) below. Thus:

(31) (i) a. hu zahir bəmida kiconit
he (is) cautious in (a)degree extreme
'he is extremely cautious'

b. zəhiruto hakiconit
his cautiousness the extreme
'his extreme cautiousness'

c. *zəhiruto bəmida kiconit

d. heyoto zahir bəmida kiconit
his being cautious in degree extreme
'his being extremely cautious'

(ii) a. hanof yafe bəcura madhima
the view (is) beautiful in form amazing
'the view is amazingly beautiful'

b. yofyo hamadhim šel hanof
its beauty the amazing of the view
'the amazing beauty of the view'

c. *yofyo bəcura madhima šel hanof

d. heyot hanof yafe bəcura madhima
being the view beautiful in form amazing
'the view's being amazingly beautiful'

These facts suggest, firstly, that there is a surface syntactic justification for treating adjectives as a category distinct from verbs, for the former alone are obligatorily associated with a copula verb, despite the strong semantic and other arguments for subsuming adjectives and verbs together as predicatives (see, for instance, Lakoff 1965, 115-133). Secondly, all that has been noted in this subsection indicates that adjectives (at all events those not in the denominative class, as noted in part (a) of Section 7.2.2) and manner adverbials should be considered as syntactically constrained variants of the same category at some deeper level of structure. We can then say that if an underlying verb or adjective is modified by some such expression – let us call it NP_{β},[16] where β stands for Manner or Degree, then just in case nominalization takes place, this NP_{β} may optionally lose most of its structure to take the surface form of an adjective modifying a derived nominal (as in (29) and (31) above).[17] This process of "de-adverbalization" of the underlying modifying element NP is constrained as follows: it may take place if either a main verb or the copula *haya* is nominalized (examples (30-a) and (31-d), respectively); and it must take place if an adjective is nominalized (examples (31-b) above). Once this process has applied, the resulting adjective must be placed immediately after the nominal to which it is an adjunct (see fn. 15 above), and it will subsequently undergo rules of concord to make it agree with this head nominal in Gender, Number, and Definiteness, just as does any adjective with its head noun (see Berman 1974 for a statement of agreement rules in Hebrew).

10.4.4 Negation

It has been noted that *lo*, as the most normal or general marker of negation in Hebrew alternates not only with *eyn* in the present-tense (see Sections 5.2.2 and 6.5) and with *al* in imperatives, but also with prefixal *iy-* in the case of so-called "abstract nouns." Thus Rabin 1958 cites such forms as *iy-msira* 'not-transferring, non-transferral', *iy-ktivati*, 'not-writing-my = my not/non-writing', *iy-noxəxut* 'non-presence = non-attendance', and *iy-nəxonut* 'non-readiness = unwillingness' (all glosses by R.B.). In his reply to Rabin's article, which deals only incidentally with the question of negation in general, Mirkin 1962 associates the use of *iy-* explicitly with the notion of "Action Nouns," citing such examples as: *iy-havana* 'not/non/mis-understanding', *iy-bitaxon* 'non/in-security', *iy-imun* 'non-confidence, mistrust' – none of which can strictly speaking be characterized as nouns signifying "action" – as well as *iy-hafraza* 'non-

exaggeration', *iy-heanšut* 'not being punished', *iy-hamara* 'non-exchange, non-substitution'.

It seems to us, however, that the negator *iy-* is constrained in a very special way, for it occurs only with nouns which are [+ABSTRACT], but not with all of them; and it occurs with all nouns which are [+ACTION], but not only with them. Rather, the occurrence of *iy-* can and should be taken as a defining property of all and only the class of what we have termed derived nominals in Hebrew – the so-called V-Nom and A-Nom.[18] These claims are illustrated below, the examples in (32-a) showing that *iy-* is used only with [+ABSTRACT] nouns, those in (32-b) showing that it is not used with all such nouns.

(32) a. **iy-báyit* **iy-mixtav* **iy-kélev* **iy-sukar*
non-house non-letter non-dog non-sugar

b. **iy-handasa* **iy-histórya* **iy-pkidut* **iy-dat*[19]
non-engineering non-history non-bureaucracy non-religion

(33) (i) V-NOMS

a. iy-hasagat šalom
non-achievement of peace

b. iy-rišum haxešbonot bacura hanəxona
non-recording of the accounts in the right way

c. iy-hahizdahut šelo im deot horav
non-identification his with the attitudes of his parents

d. iy-yəxoltéynu liftor et habaaya
non-ability ours to solve OM the problem

e. iy-hištayxut hador hacair lə šum makom
non-belonging of the younger generation to any place

(ii) A-NOMS

a. iy-hanoxut šelo biglal seruvam
dis-comfort his due to their refusal

b. macav šel iy-bəhirut
(a)state of non-clarity

c. iy-šivyon haiša
non-equality of (the)woman

It seems clear that a nominal "derived" (in the manner suggested in Section 10.7 below) from an underlying sentential base will have *iy-* associated with it just in case the underlying S is marked as being [+NEGATIVE]. That is, *lo* and *iy-* alternate as markers of negation if and

only if nominalization takes place. Evidence for this view is provided, *inter alia*, by the presence of negative indefinite expressions in precisely these two environments – as shown by the occurrence of *šum* in (33-i,e) above. Thus:

(34) (i) a. hu hitgaber al kol habaayot
he overcame (on) all the problems

b. hitgabruto al kol habaayot
his overcoming (on) all the problems

c. hu lo hitgaber al šum baaya
he not overcome (on) no problem
'he did not overcome a single problem'

d. iy-higabruto al šum baaya

(ii) a. kiblu et rov hahacaot
(they) accepted OM most of the suggestions

b. kabalat rov hahacaot
(the)acceptance of most of the suggestions

c. lo kiblu af axat mehahacaot
not (they)accepted any one from the suggestions
'they didn't accept any of the suggestions'

d. iy-kabalat af axat mehahacaot

10.4.5 Summary

From the point of view of the internal (surface) structure of expressions which have a V-Nom or A-Nom as head, these derived nominals manifest, then, a peculiar duality. On the one hand, they are like nouns in that they enter into genitive constructions, they can be modified by adjectives, they can take definiteness, number, and gender marking, and so forth; all this justifies the surface structure form assigned them in Section 8.2 – as the N heads of NP's. On the other hand, they can typically be complemented and modified in exactly the same way as the verbs (and, in many cases, the adjectives) from which they are derived, and in this, they manifest clear traces of their sentential source. Moreover, the unique status of such constructions is marked by the fact that they alone occur with the special negative marker *iy-*, which serves to set V-Noms and A-Noms apart as a quite distinct lexical category.

Finally, this "duality" of V-Noms in Hebrew can best be explained in the following terms: They typically represent two types of nominals distinct in English and other European languages – the "gerund" and the

"abstract action noun" of traditional grammars. That is, in isolation, a word like *haxlata* is both 'deciding' and 'decision', *seruv* – 'refusing' and 'refusal', *knisa* – 'entering' and 'entrance', *yedia* – 'knowing' and 'knowledge', etc. The precise function or interpretation which resolves this potential categorial ambiguity will be related to the internal construction of the expression in which the particular V-Nom occurs – more verbally, as a gerund, more nominally as an abstract noun.

10.5 SYNTACTIC FUNCTIONS

In this section, we consider further motivation for characterizing expressions with a derived nominal as head as quite clearly NP's: the fact that they occur in all the environments and fulfil all the functions normally associated with simplex or non-derived noun phrases.[20] Thus, below we give instances of these expressions in such various surface-structure contexts as: Subject of Main-Verb or Copula Sentences, Object of Verb or Preposition, Sentence-modifying Adverbials, etc.

(35) a. Subject of Main Verb:
halixat dan hiflía et kulánu
going of Dan amazed OM us all

b. Subject of Copula Sentence:
hahišaanut al havatikim hi ofyanit lahem
(the)reliance on the oldtimers (is) typical of them

c. Object of Main Verb:
hamexkar bodek et histaglutam latnaim kan
the study tests OM their adjustment to conditions here

d. Oblique Object:
hem hixrízu al kavanatam lifroš mehamiflaga
they announced (on) their intention to leave (from)the party

e. Complement of Copula Sentence:
parašat október hi haxmacat hizdamnut xayénu
(the)affair of October (is) missing of the chance of our lifetime

f. Sentence Adverbial:
raínu otam bivrixatam min hamapólet
we saw them in their flight from the landslide

that the feature [+DER] necessarily entails [+ABSTRACT]. This derivation will also uniquely account for the dual nature of such expressions which in terms of their internal syntactic patterning, as noted in Section 10.4 above, manifest properties common to verbs, on the one hand, and to nouns, on the other, in addition to certain quite unique syntactic properties such as negation and ordering with respect to the underlying Subject NP. Morphophonological realizations will be accounted for by a combination of general rules applying to regular, paradigmatic forms of V-Noms and individual lexical specifications for all A-Noms and for morphologically anomolous V-Noms.

Finally, the derivation proposed above accounts for the syntactic and semantic correspondences and interrelations between the unique class of derived nominals of Hebrew and finite *še-* clauses, on the one hand, and the so-called *šem póal* 'verbal noun' Infinitive and Gerund, on the other.

It now remains to consider other classes of nouns which may be considered "verb-related" in that they share a common consonantal root and a common semantic core with verbs of the language, yet which do not manifest the peculiar properties of derived nominals as dealt with in this chapter. Such nouns constitute the subject of the chapter which follows.

NOTES

[1] This chapter is a revised and expanded version of Berman 1976.

[2] Some speakers claim that there is a formal distinction between the derived nominal form of a transitive verb and the homophonous concrete noun as follows: Where the nominal is the head with respect to a construct-state adjunct which represents the underlying Object NP, the former must occur in the bound and not in the separate form of the *smixut* genitive (see Section 7.2). Thus the example of *xitul hatinok* in (3-ii) can be interpreted as 'diapering(of) the baby' – from a sentence such as 'X diapers the baby' – just in case the genitive particle is not inserted. That is, *haxitul šel hatinok* is well-formed only if the head noun *xitul* is interpreted as a concrete rather than as a derived nominal. Moreover, in the latter case, unlike in the case of the Verb-Object relation, the use of *šel* to express Possessed-Possessor or any other relation between the head *xitul* and the adjunct *tinok* (e.g., 'the diaper which the baby *wears*' rather than 'the diaper which the baby owns') is the preferred one. That is, in line with the claim we made in Section 7.1, the normal or unmarked

form of the genitive is the separate one with *šel*. This would explain why the use of the bound form *xitul hatinok* in (3-ii,b) of the text, while not ungrammatical, is highly unlikely in actual usage.

[3] Purists claim that the occurrence of *ze* as a pro-subject in such sentences is due to unwarranted foreign influence. In colloquial usage, however, sentences with a *that*-clause surface subject are viewed as highly contrived unless they have *ze* to start with. Note, too, that where *ze* precedes a surface complement clause – as in the (b) sentences of (9-iii) and (9-iv) – the form *kax* (*xax* after a vowel) is preferred in formal style following any preposition other than *et*. Thus:

(i) dibárnu al kax še ...
we talked about it that

(ii) hitragálti ləxax še ...
I've gotten used to it that

(iii) hu šixnéa oti bəxax še ...
he convinced me by it that

In such cases, Hebrew quite typically prefers the finite-clause type of complement where English, say, might use a Poss-*ing* type: "we talked about going ...," "I've gotten used to wearing ...," "he convinced me by his taking ...," and so on.

[4] It is interesting that the Hebrew word *uvda* does not seem to have acquired the kind of extensions of meaning which make the following types of expressions (following Kiparsky & Kiparsky 1970) acceptable with the word "fact" in English but not with *uvda* in Hebrew:

(i) a. the fact that he died so young is tragic
b. *hauvda še hu met ko cair hi trágit

(ii) a. the fact that they thought so was unexpected
b. *hauvda še hem xašvu kax hayta bilti cfuya

(iii) a. the fact that he's going to resign annoys me
? hauvda še hu omed lifroš margiza oti

As the third example shows, such expressions seem slightly better when the complement is a full verb rather than a copula followed by an adjective. This is an aspect of Hebrew structure which merits further investigation. What is clear is that the Hebrew sentences above would all be perfectly well-formed just in case *hauvda* were replaced by *ze* (or by zero in normative style – as shown in examples (10-i) and (10-ii) of the text), with appropriate concord adjustments, the noun *uvda* being in feminine gender.

[5] The term "adjunct" is used here in the sense of the traditional Hebrew notion of *ləvay*, literally 'accompanier, accompaniment', referring to any construction which modifies a noun – specifically adjectives, relative clauses, and non-head elements of *smixut* compounds. We adopt the term in this context to provide a surface distinction between the accepted notion of "complement" as shown in (i) to (iii) below and its counterpart "adjunct" as illustrated in (iv).

The so-called gerund is, moreover, more "straightforward" than its derived nominal counterpart from the point of view of syntactic structure in two ways. Firstly, it adheres strictly to its sentential source in terms of both complements and modifiers (compare the "duality" of V-Noms as partly verbal, mainly nominal as noted in Sections 10.4.2 and 10.4.3 in this respect). Secondly, while it does also manifest a permutation of the normal S⁀V⁀(O) ordering, the underlying Subject NP always following the gerund, as it does V-Nom – as shown in the underlined forms in (36) above, for instance – it is more constrained than is the V-Nom with respect to *smixut* genitives (see part (c) of Section 7.2.2), for, unlike V-Noms, the "verbal noun" of Hebrew cannot occur alone with the genitive particle *šel*, thus:

(37) a. (ha)hitnagdut šel xaverim
(the)opposition of members

b.*(ha)hitnaged šel xaverim
(the)opposing of members

This contrast also shows, incidentally, that V-Nom can take the definite article – not so the 'verbal noun' we called a gerund.

Another general difference in the construction of V-Nom as compared with gerund phrases is that the former alone allow for "loss of structure" compared with their assumed sentential sources. Thus, as noted in Section 10.4.2 above, V-Noms and A-Noms based on transitive verbs and adjectives, respectively, can occur without any surface complement; not so the Hebrew gerund, which will block such object-deletion. Moreover, we noted as a highly peculiar property of the gerund in Hebrew that it must retain an overt form of its underlying Subject NP, even when the referent of the latter is abundantly clear from the context – as in English: "On *entering* the room, *Alice* fell and hurt herself," or "All *passengers* will be checked after *getting off* the plane." Such expressions must have at least a pronominal form of the subject actually attaching to the gerund. However, if V-Nom forms are used for "entering" and "getting off," this is not necessary. In fact, V-Noms are very typically, though by no means exclusively, used with no overt Subject reference at all, thus:

(38) (i) a. šney nəarim huašmu bignevat hamxonit
two youngsters were charged with stealing of the car

b. axilat mamtakim bəhafraza təkalkel layalda
eating of candies in excess will spoil for the child
et hateavon
OM (her) appetite

(ii) a. hanisayon ləšanot et hamištar rauy ləhikašel
the attempt to change OM the regime deserves to fail

b. hexašuv bəyoter hu hašmira al haikaron
the important most it the keeping on the principle
'the most important thing is preservation of/sticking to the principle'

None of the underlined V-Noms have Subject NP's overtly mentioned inside the NP's of which they are head. In (i) the Subject may have been deleted by Equi-NP Deletion – in the sense that it occurs elsewhere in the same surface sentence, as shown by the underlined NP's *šney nəarim* and *yalda*, respectively. In (ii) the Subject NP may have undergone Unspecified NP Deletion – of the kind noted in 10.4.2 with respect to loss of Complement NP's. For clearly in both sentences of (ii) above, some unspecified (human) agent is viewed as "attempting" and as "preserving," respectively. Such processes, much like those of Pronominalization, need to be accounted for in a more universal framework, though the precise conditions applying to both Equi-NP and Unspecified NP Deletion in Hebrew deserve more detailed consideration than they have received to date. Here we merely note that V-Noms (and A-Noms) can occur "alone," with the nominals which presumably accompany them in deep structure having been deleted. The Hebrew gerund, however, does not allow such loss of structure.

In summing up this section, the following can be noted. Firstly, the "nominal" type of gerund described in Section 9.2.2 as a very restricted set of lexical items may be viewed as being an intermediate type of construction between the *šem póal* 'gerund' and *šem pəula* 'action noun'. Secondly, apart from this small group of words, the gerund is almost completely verb-like, the V-Nom very noun-like. In fact, however, the gerund is a marginal subclass of V-Noms, for it may function in only one of the many ways and environments open to the V-Nom (punctively temporal sentence-modifying clauses), and in that way alone. This, as well as certain uniquely shared properties of internal structuring – most

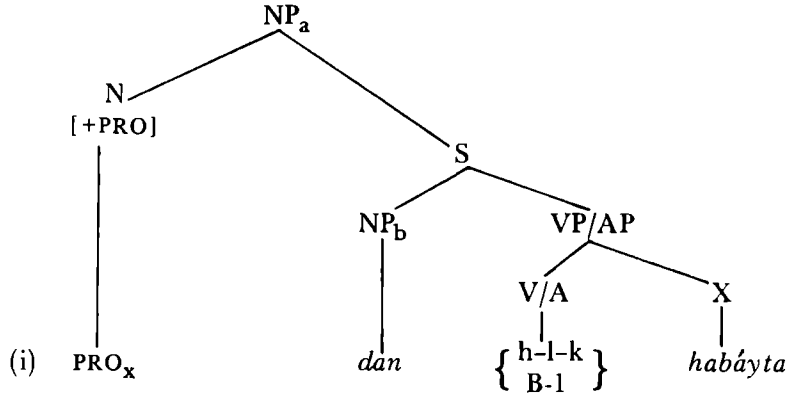
specifically the fact that both the gerund and the V-Nom are followed by the Subject NP – justifies positing a common derivation for both kinds of construction considered in this subsection. Specifically, the following common properties of the gerund, as treated in Chapter Nine, and of the derived noun, as treated in the preceding sections of this chapter, will be incorporated in the analysis which follows: a) the required construction will be derived just in case there is an embedded [-TENSE] (=non-finite) Predicate; b) if it is derived, then the underlying Subject NP will be brought round to immediately follow the nominalized form; c) the resulting construction will be dominated by an NP node, reflecting nominal properties of its internal structuring as well as its function within the sentence as a whole; and d) if the embedded Predicate is [+TENSE], the same underlying structure will constitute the basis for a well-formed finite *še-* 'that' clause.

10.7 DERIVATION OF V-NOMS AND A-NOMS

The derivation proposed in this section is based on the following general claims, which may be viewed as applying in one way or another to all three types of nominalized forms considered so far in this part of the book: Infinitives, Gerunds (Chapter Nine), and Derived Nouns (V-Noms and A-Noms, as discussed in the present chapter). Firstly, these nominals are viewed as deriving from the same base-structure as their sentential counterparts where the latter have a [-TENSE] predicate (see Section 5.6.1). Where the predicate is [+TENSE], that is, its main verb will be finite in surface structure, a corresponding *še-*clause nominal will be derived. Secondly, the specific semantic content of the V-Nom or A-Nom to be derived, as discussed in Section 10.2.2 above, will be explicitly defined in terms of the head N with which the derived nominal is associated in deep structure. The morphological form of the derived nominal will, on the other hand, be derivable by separate morpho-phonological rules: in the case of regular, paradigmatic forms like those shown in (2) above, by general processes applying to any given {ROOT + *BINYAN*} combination; in the case of the various anomalous forms noted in Section 10.3 above, by individual lexical entries.

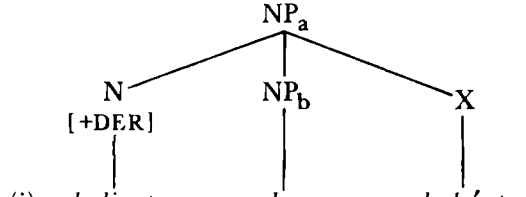
The structure we regard as underlying V-Noms and A-Noms is depicted below:

(39)



Such a structure might eventually undergo Nominalization to yield the following:

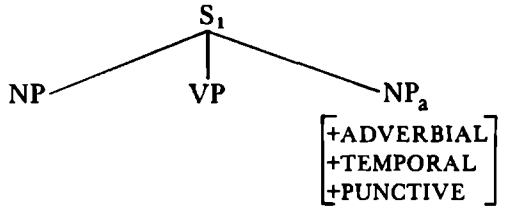
(40)



The following should be noted in explanation of the derivation crudely represented in (39) and (40) above:

(a) No claims are made about the environment of NP$_a$. Clearly, it will itself occur within a sentential environment, as surface subject, complement, object, etc., along the lines noted in Section 10.5 above. Just in case it occurs in the context noted in (41) below, it may form the basis for the derivation of either a gerund or an abstract noun, as noted in Section 10.6 above.

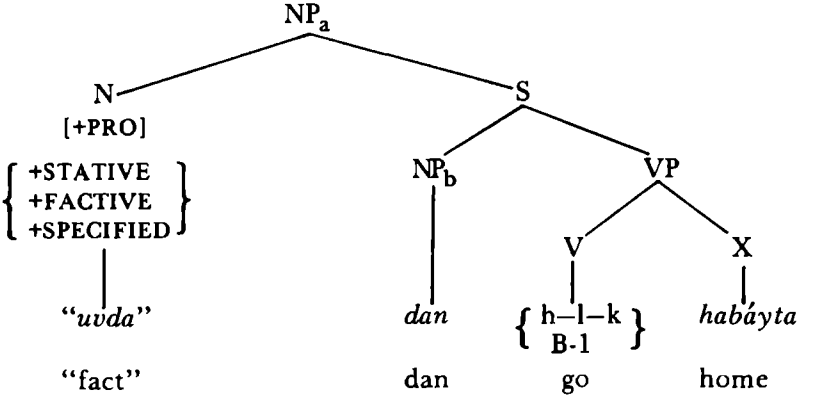
(41)



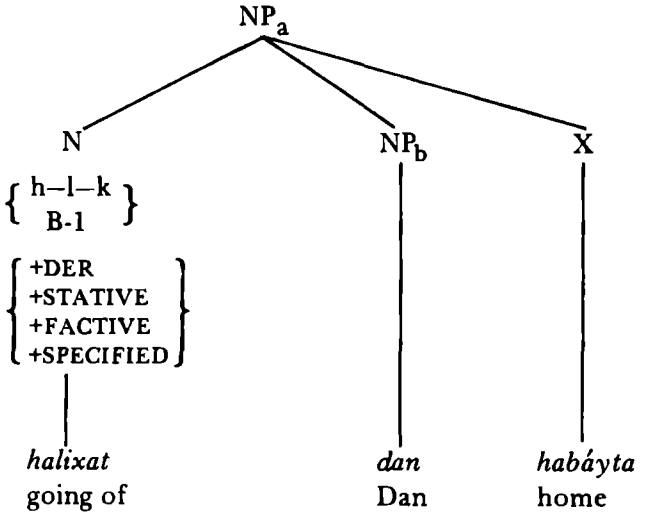
(b) The crux of the analysis suggested here relates to the nature of the head N of NP_a – indicated merely by PRO_x and PRO_y in (39) above. The claim is that, just in case the construction in question will have a derived nominal as head, taking a surface shape like that in (40) above, then the underlying construction will have a restricted set of Pro-forms as head: those listed in (6) above, such as 'it', 'fact', 'degree', 'state', 'process', and 'act'.

Note that these Pro-forms are not to be interpreted as actual "words" in the sense of bundles of semantic, syntactic, and phonological features which are realized as overt phonetic strings. Rather, they are viewed as abstract configurations of semantic and syntactic properties which, in the process of nominalization as shown in (39) and (40) above, are incorporated into the derived nominal – i.e., {N, [+DER]} – to account for how it is interpreted in any particular case. This process of "Pro-Incorporation" is illustrated below:

(42) (i)



(ii) by Nominalization plus Pro-Incorporation, to:



By the process depicted above, the properties of the head N relevant to semantic interpretation (and, as we shall see below, to syntactic patterning, too) are incorporated into the derived nominal, e.g., *halixat* 'going, departure', that constitutes the head of the surface nominal phrase in (42-ii).

(c) This process of Pro-Incorporation is not obligatory: any of the Pro-forms listed in (6) above, with the exception of *ze* 'it' – may show up on the surface. In such a case, it will generally take the form of a head-noun of a genitive *smixut* construction with the derived nominal as its adjunct. This situation, illustrated in some detail in the (c) expressions of (7) above, is briefly shown below, with the Pro-form genitive head in parentheses, to indicate its optionality.

(43) a. (uvdat) halixat dan habáyta hirgíza otánu
(the fact of) Dan's going home annoyed us

b. (midat) haclaxatéynu tluya beharbe gormim
(the degree of) our succeeding depends on many factors

c. kulam məxakim lə- (macav šel) hišṭatkut haruxot
everyone is waiting for (a situation of) (a)calming down of tempers

d. hitpaálnu mimə́hirut (tahalix) hitaklə́muto lamakom
we were amazed (at)the speed of (the process of) his acclimatization to the place

e. ani mitrašem mi (ófen) tipulo ba- baayot
I (am) impressed (by) (the way of) his handling (of) problems

As noted, the only Pro-form of those listed in (7) which does not allow both options illustrated in (43) is the neutral, unmarked *ze* 'it', which must be "incorporated" into the nominalized form. Unlike its English counterpart, however, it may show up on the surface before S (as noted in paragraph (h) below), though never before N. This indicates that derived nominals are noun-like in this respect, too.

(d) The underlying verb in (39-i) is represented as a combination of { ROOT + *BINYAN* Pattern}. In fact, the same procedure should be followed in the representation of the underlying adjective — as a combination of { ROOT + *MIŠKAL* Pattern } (see Section 3.3.3). Following nominalization, appropriate morphophonological rules will be required to derive the surface form of the V-Nom or A-Nom in each case.

(e) The feature [+DER] 'derived' associated with the head nouns of the intermediate structures in (40) and (42-ii) is assigned to all and only the class of derived nominals as characterized in Sections 10.2 through 10.6 of this chapter. This feature is required to trigger the morphophonological alternations noted above, along the lines outlined in Section 10.3. It is also required to trigger appropriate syntactic processes — such as obligatory Subject Movement as well as Complement Deletion and/or Modifier Adjustment where the latter apply, and Negation by prefixal *iy-* (see Section 10.4).

(f) We noted earlier that a salient feature of derived nominals and of gerunds in Hebrew is that they are followed rather than preceded by the

NP (represented as NP_b in (39) and (40) above) which functions as their underlying Subject. This represents a distinction between the normal surface S⁀V⁀(O) order of elements in sentential expressions compared with their V-Nom⁀S⁀(O) under nominalization. Moreover, in the latter case, the S element will be attached to the V-Nom head in a genitive *smixut* relationship, as adjunct to the derived-nominal head. (For details, see Section 10.4.1 above.) This underlying Subject may, as noted in Section 10.6 above, be deleted to yield such expressions as: *hahitnagdut laxok hi tipšit* '(the) opposition to-the-law is stupid' or *hu hitragez al giluy sodo* 'he was-angered at (the)revealing-of his-secret'.

(g) Note, next, that nominalization is possible just in case the Predicate of an embedded S in a structure such as (39) above is marked as [-TENSE], a notion characterized in Section 5.6.1 to account for non-finite (non-participial) verb-forms – most specifically the Infinitive and the Gerund, as discussed in Section 9.1. An identical structure will yield a finite *še-* 'that' clause just in case the embedded Predicate is marked as [+TENSE]. These two options are intended to account for the very general correspondence of noun phrases with derived nominals as heads, on the one hand, and finite "that" clauses, on the other – a correspondence noted at various points earlier in this chapter, and illustrated in the (a) and (c) versions, respectively, of the sentences in (7) above. That is, an expression of the form {(PRO)⁀N[DER]⁀X} can very generally be paraphrased by one of the form {(PRO)⁀*še-*⁀S} – as illustrated below with respect to the examples given in (43).

(44) a. (i) (uvdat) halixat dan habáyta
(the fact of) going Dan home

(ii) (hauvda) še dan holex habáyta
(the fact) that Dan goes home

b. (i) (midat) haclaxatéynu bamivca
(the-extent-of) succeeding our in the project

(ii) (hamida) še naclíax bamivca
(the extent) that we succeed in the project

c. (i) (macav šel) hišťatkut haruxot
(a state of) calming down of tempers

(ii) (macav) še haruxot yišťatku
(a state) that (the)tempers will calm down

The following specific details need to be noted: Of the Pro-forms listed in (6) above, *tahalix* 'process' and *peula* 'act', when realized as actual lexical items, cannot take *še-* clause complements, requiring instead a genitive complement such as *hatahalix šel* 'the-process of' or *peulat-* 'act-of'. These two heads can thus be considered as the prototype instances of the notion action noun – having no corresponding finite *še-* clause associated with them.

Note, too, that the prototype pronominal *ze* 'it' can, and in colloquial usage very regularly does, occur in the environment /–S. Thus:

(45) (i) a. hauvda še dan halax habáyta
the fact that Dan went home
b. ze še dan halax habáyta

(ii) a. hauvda še hicláxnu hamivca
the fact that we succeeded in the project
b. ze še hicláxnu bamivca

(iii) a. hauvda še haruxot mištatkot
the fact that (the)tempers are quietening down
b. ze še haruxot mištatkot

As the examples indicate, *ze* is typically associated with a factive, rather than with any other type of interpretation (see Section 10.2.2 above in this connection). English typically disallows the occurrence of the pronominal 'it' before S, and in fact the (b) examples above are rejected by purists as un-Hebrew, also. However, in everyday usage the occurrence of the prosentential *ze* is more common than not before a *še-* clause – whether the latter functions as surface subject, object, complement, etc.

To sum up this section, then, the following processes may be applied to a string of the kind depicted in (39) above [uvda/ze [dan h–l–k habáyta]]:

(46) From: $[_{NP_a}\text{PRO} \quad [_S \text{NP}_b \quad [_{VP_i} \text{V} \quad \text{X}]]]$ Cond: VP_i is [-TENSE]

(i) Nominalization ⇒

$[_{NP}$ PRO NP$_b$ N[+DER] X]

uvda/ze dan $\left\{\begin{matrix}\text{h–l–k} \\ \text{B-1}\end{matrix}\right\}$ báyta

(ii) Subject Movement ⇒

$[_{NP}$ PRO N[+DER] NP$_b$ X]

uvda/ze $\left\{\begin{matrix}\text{h–l–k} \\ \text{B-1}\end{matrix}\right\}$ dan báyta

(iii) PRO-Incorporation (obligatory with *ze*, optional elsewhere) ⇒

$[_{NP}$ N[+DER] NP$_b$ X]

$\left[\begin{matrix}\left\{\begin{matrix}\text{h–l–k} \\ \text{B-1}\end{matrix}\right\} \\ \text{+FACT}\end{matrix}\right]$ dan báyta

(iv) Genitive Formation (followed by morphophonological realizations) ⇒

a) "bound" – (uvdat) halixat dan habáyta

b) "free" – (hauvda) šel halixat dan habáyta
(hauvda) šel halixato šel dan habáyta, (etc.)

Just in case the condition noted above is not met, and the embedded VP_i is [+TENSE] – then steps (i) and (ii) above will be blocked, and instead *še-* Adjunction will take place, to yield, say: *hauvda/ze še dan halax habáyta*. This in turn will be followed by step (iii) of Pro-Incorporation – but the latter will be optional in all cases, for *ze* can remain on the surface, as shown in (45-b) above.

It seems to us that this kind of derivation makes it possible to capture the semantic properties of all and only derived nominals noted in Section 10.2.2 above; moreover, the [+ABSTRACT] property of such nominals can be accounted for by a general redundancy rule indicating

that the feature [+DER] necessarily entails [+ABSTRACT]. This derivation will also uniquely account for the dual nature of such expressions which in terms of their internal syntactic patterning, as noted in Section 10.4 above, manifest properties common to verbs, on the one hand, and to nouns, on the other, in addition to certain quite unique syntactic properties such as negation and ordering with respect to the underlying Subject NP. Morphophonological realizations will be accounted for by a combination of general rules applying to regular, paradigmatic forms of V-Noms and individual lexical specifications for all A-Noms and for morphologically anomolous V-Noms.

Finally, the derivation proposed above accounts for the syntactic and semantic correspondences and interrelations between the unique class of derived nominals of Hebrew and finite *še-* clauses, on the one hand, and the so-called *šem póal* 'verbal noun' Infinitive and Gerund, on the other.

It now remains to consider other classes of nouns which may be considered "verb-related" in that they share a common consonantal root and a common semantic core with verbs of the language, yet which do not manifest the peculiar properties of derived nominals as dealt with in this chapter. Such nouns constitute the subject of the chapter which follows.

NOTES

[1] This chapter is a revised and expanded version of Berman 1976.

[2] Some speakers claim that there is a formal distinction between the derived nominal form of a transitive verb and the homophonous concrete noun as follows: Where the nominal is the head with respect to a construct-state adjunct which represents the underlying Object NP, the former must occur in the bound and not in the separate form of the *smixut* genitive (see Section 7.2). Thus the example of *xitul hatinok* in (3-ii) can be interpreted as 'diapering(of) the baby' – from a sentence such as 'X diapers the baby' – just in case the genitive particle is not inserted. That is, *haxitul šel hatinok* is well-formed only if the head noun *xitul* is interpreted as a concrete rather than as a derived nominal. Moreover, in the latter case, unlike in the case of the Verb-Object relation, the use of *šel* to express Possessed-Possessor or any other relation between the head *xitul* and the adjunct *tinok* (e.g., 'the diaper which the baby *wears*' rather than 'the diaper which the baby owns') is the preferred one. That is, in line with the claim we made in Section 7.1, the normal or unmarked

form of the genitive is the separate one with *šel*. This would explain why the use of the bound form *xitul hatinok* in (3-ii,b) of the text, while not ungrammatical, is highly unlikely in actual usage.

[3] Purists claim that the occurrence of *ze* as a pro-subject in such sentences is due to unwarranted foreign influence. In colloquial usage, however, sentences with a *that*-clause surface subject are viewed as highly contrived unless they have *ze* to start with. Note, too, that where *ze* precedes a surface complement clause – as in the (b) sentences of (9-iii) and (9-iv) – the form *kax* (*xax* after a vowel) is preferred in formal style following any preposition other than *et*. Thus:

(i) dibárnu al kax še ...
we talked about it that

(ii) hitragálti ləxax še ...
I've gotten used to it that

(iii) hu šixnéa oti bəxax še ...
he convinced me by it that

In such cases, Hebrew quite typically prefers the finite-clause type of complement where English, say, might use a Poss-*ing* type: "we talked about going ...," "I've gotten used to wearing ...," "he convinced me by his taking ...," and so on.

[4] It is interesting that the Hebrew word *uvda* does not seem to have acquired the kind of extensions of meaning which make the following types of expressions (following Kiparsky & Kiparsky 1970) acceptable with the word "fact" in English but not with *uvda* in Hebrew:

(i) a. the fact that he died so young is tragic
b. *hauvda še hu met ko cair hi trágit

(ii) a. the fact that they thought so was unexpected
b. *hauvda še hem xašvu kax hayta bilti cfuya

(iii) a. the fact that he's going to resign annoys me
? hauvda še hu omed lifroš margiza oti

As the third example shows, such expressions seem slightly better when the complement is a full verb rather than a copula followed by an adjective. This is an aspect of Hebrew structure which merits further investigation. What is clear is that the Hebrew sentences above would all be perfectly well-formed just in case *hauvda* were replaced by *ze* (or by zero in normative style – as shown in examples (10-i) and (10-ii) of the text), with appropriate concord adjustments, the noun *uvda* being in feminine gender.

[5] The term "adjunct" is used here in the sense of the traditional Hebrew notion of *ləvay*, literally 'accompanier, accompaniment', referring to any construction which modifies a noun – specifically adjectives, relative clauses, and non-head elements of *smixut* compounds. We adopt the term in this context to provide a surface distinction between the accepted notion of "complement" as shown in (i) to (iii) below and its counterpart "adjunct" as illustrated in (iv).

(i) Adjective Complement

hu	aš̌em	bəxax	še	nixš̌álnu
he (is)	guilty	of it	that	we failed

(ii) Verb Complement

hu	garam	ləxax	še	nixš̌álnu
he	caused	(to it)	that	we failed

(iii) Noun Complement

hauvda	še	nixš̌álnu
the fact	that	we failed

(iv) Noun Adjunct

uvdat	kišlonéynu			} 'the fact of our failure'
fact of	failure our			
hauvda	šel	hakišalon	šelánu	
the fact	of	the failure	of us	

[6] One possible exception to this statement is the group of nouns which take the same morphological form as verbs in the *benoni* present-tense or participial construction (see Sections 5.2 and 5.3), and which can generally be associated with the lexical category of Agent Nouns (if [+HUMAN]) as well as of Instrument Nouns (if [-ANIMATE]). We refer to such words as the following, listed according to conjugation (*binyan* pattern):

BINYAN	[+HUMAN] AGENT		[-ANIMATE] INSTRUMENT	
B-1 *paal*	*š̌ofet*	'judge'	*mone*	'(measuring)meter'
B-2 *nifal*	*nispax*	'attaché'	*nigrar*	'trailer'
B-3 *piel*	*məragel*	'spy'	*məyabeš̌*	'(hair)dryer'
B-4 *hitpael*	*mitnaxel*	'settler'	– – –	
B-5 *hifil*	*manhig*	'leader'	*malbin*	'bleach'

[7] The *miš̌kal* patterns typically associated with adjectives (but not necessarily with them alone) include:

CVC	– *gas*	'crude'	*car*	'narrow'	*rax*	'soft'
CaCeC	– *zaken*	'old'	*kaved*	'heavy'	*acel*	'lazy'
CaCaC	– *katan*	'small'	*xazak*	'strong'	*xalaš̌*	'weak'
CaCoC	– *gadol*	'big'	*matok*	'sweet'	*kaxol*	'blue'
CaCuC	– *paš̌ut*	'simple'	*xaš̌uv*	'important'	*barur*	'clear'
CaCiC	– *mahir*	'quick'	*samix*	'thick'	*naim*	'pleasant'
. . . i	– *rəcini*	'serious'	*prai*	'wild'	*iti*	'slow'

The following might be noted with respect to these forms:

(i) These *miš̌kal* patterns are not, as noted, exclusive to adjectives. Thus, the CaCeC pattern was originally a verbal one, but today is clearly adjectival, as evidenced by the sub-standard tendency to regularize verbs like *yaš̌en* 'sleep' to **yoš̌en* or *gadel* 'grow' to **godel* according to the normal verb-pattern; similarly,

the CaCiC pattern, very productive in Modern Hebrew in the sense of 'susceptible to' (e.g., *axil* 'edible=can be eaten', *šamiš* 'practical=can be used', *kari* 'legible =can be read') also includes nouns such as *pakid* 'clerk', *šamir* 'dill'.

(ii) The lack of any semantic motivation to the use of one pattern or another is evidenced by the fact that words indicating physical dimensions are taken from different patterns: compare *car* 'narrow', *raxav* 'broad, wide', *arox* 'long', *namux* 'short, low'.

(iii) The use of the suffix *-i* is probably the most productive, unmarked way of forming adjectives in Modern Hebrew, including for: a) adjectives based on nouns, such as: *xuki* 'legal' from *xok* 'law', *yalduti* 'childish' from *yaldut* 'childhood', *eynsofi* 'endless' from *eynsof* 'infinity'; and b) loan-words, such as: *móderni* 'modern', *simpáti* 'agreeable, sympathetic', *trági* 'tragic' – the latter typically having penultimate stress.

[8] "Derivational morphology" is used here in the sense of word-formation processes of affixation which are not regularly "inflectional." See, for instance, the notion of "lexical morphology" in Matthews 1974, particularly Chapters 3 and 4. In this sense, V-Noms – like their counterpart A-Noms as illustrated in (13) of the text – are no different than all the other "verb-related nouns" in Hebrew, as discussed in Chapter Eleven. For just as, say, Agent Nouns may have a regular or unmarked morphological form identical to the related *benoni* participial verb-form (see Section 11.3), they may also have a wide variety of other, quite unpredictable forms, both verb-related and not (see Section 11.3). Similarly, the derived nominals of a language like English may take suffixal *-ion* (but compare phonetic *condense-condensation/compensate-compensation*, as noted by Chomsky & Halle 1968, 39); *-al* as in *proposal, arrival, refusal* (but not **imposal, *contrival, *diffusal*); *-ment* as in *judgment, development, improvement*, etc.

[9] The option of "and/or" would be determined, presumably, by whether one took the "lexicalist" position and entered both the verb and its associated nominal separately in the lexicon as against the "transformationalist" position of entering the verb alone, with the associated nominal being a rule-bound consequence thereof. For a brief account of and references to these two views, see Chapter Eight, fn. 2.

[10] Another related surface-structure constraint worth noting is the following: Given a string of the form

(i) V-Nom NP_x NP_y

where NP_x represents the underlying Subject and NP_y the underlying Object, the latter must have some overt prepositional marker. Thus, if NP_y is a non-definite "direct object" – that is, it could theoretically come straight after the verb, with no intervening preposition (see item (1) of Section 4.3) – strings of kind (i) above are distinctly odd, as shown in the (b) examples below.

(ii) a. bniyat dan et habáyit
building-of Dan OM the house
'Dan's building (of) the house'

b. ?bniyat dan báyit
building-of Dan house
'Dan's building (of) a house'

(iii) a. ahavat adam et arco
love-of (a)man OM country his
'a man's love of his country'

b. ?ahavat adam erec məsuyémet
love-of (a)man-of country certain
'a man's love of a certain country'

Note that, as example (iii) shows, the constraint is not related to the length of NP_y as such, but rather to the need for it to be overtly separated or demarcated from NP_x – by *et* or some other preposition.

[11] Note that the V-Nom *hazmanat+am* 'invitation their' is ambiguous as between whether the suffixal *-am* stands for the underlying Subject (relating to 'they invite X') or Object (relating to 'X invites them'). The reason for this is that the two passive *binyan* patterns (*pual* and *hofal*) have no separate morphological "slot" for V-Noms – nor, indeed, for Infinitives or Gerunds, as noted in Section 5.4.1. The following should thus be noted:

a) This constraint does not apply to verbs in the *nifal* B-2 conjugation, where surface ambiguity can be avoided if desired. Thus *pciat haxayal* 'the wounding of the soldier' can be derived either from *haxayal paca* (B-1) 'the-soldier wounded' or *haxayal nifca* (B-2) 'the-soldier was-wounded'; but *hipacut haxayal* literally 'being-wounded the-soldier', while also meaning 'the wounding of the soldier', is unambiguously related to the second expression above, with 'soldier' as deep-structure Object.

b) This surface identity of V-Noms based on both active and passive verb forms leads to ambiguity of Subject vs. Object reference just in case the latter has been deleted under nominalization. Thus: *xakirat haʕoter* – like its English counterpart '(the)interrogation-of the-policeman' – is ambiguous because there is either no overt Subject (for 'X interrogates the policeman') or no Object (for 'the policeman interrogates X') in the nominal form.

c) Such ambiguity is often semantically resolvable, as in *axilat perot* '(the)eating (of) fruit' where the adjunct noun is obviously the Object or in *ktivat hastudent* 'writing the-student' = 'the student's writing', where the adjunct is obviously the Subject.

d) Some informants have claimed that there is a difference in the form of genitive *smixut* constructions (see Sections 7.1 and 7.2 as well as the preceding section of the present chapter) preferred by Subject and Object adjuncts, respectively. Their claim is that the "bound" form is more likely to be used where the adjunct is Object, hence *axilat perot* rather than ?*axila ʕel perot* in (c) above, and the "free" form with *ʕel* where the adjunct is Subject, requiring *haktiva ʕel hastudent* for the last example in (c) above. With respect to the first part of the claim, which would rule out the (a) versions below, the second, adjunct noun in each case being quite clearly the Object of the nominal, notice that the (b) examples are acceptable in all styles – normative and colloquial:

(i) a. ?axila šel perot
eating of fruit(s)

b. axila šel perot še nexšavim ləegzótiyim
eating of fruit that are considered as exotic

(ii) a. ?hatixnun šel haezor
the planning of the region

b. hatixnun šel ezor merkaz haárec
the planning of (the)region(of) (the)centre(of) the country

(iii) a. ?nikuy šel báyit
cleaning of (a)house

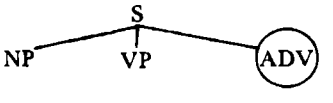
b. nikuy šel báyit gadol kaze
(the)cleaning of (a)house (as)big as this(one)

It seems, then, that this constraint is limited to a sequence of two isolated N's, for the moment the adjunct NP is more complex or "heavy," it no longer applies. Conversely, there seems no independent reason to prefer *haktiva šel hastudent* to *ktivat hastudent* for 'the student's writing' or *hahitnahagut šel dan* to *hitnahagut dan* for 'Dan's behavior' (where the adjunct noun is the underlying Subject in each case) other than the overall tendency to prefer the free form of the genitive with *šel* rather than its bound counterpart in contemporary usage in general (see Sections 7.1 and 7.2).

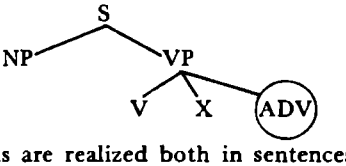
[12] Similar, language-general devices are needed to explain instances of derived nominals with no overt Subject NP – as discussed and illustrated in further detail in Section 10.6 below.

[13] From the point of view under consideration here, it is irrelevant whether these adverbials be viewed as sentence modifying "extranuclear" elements as in (i) below or as part of the VP node – as in (ii) below, with respect, say, to such Manner Adverbs as *bəxavod* 'honorably' or *bəxazara* 'back, in return' in (25-iii) of the text.

(i)



(ii)



The point here is that precisely the same adverbials are realized both in sentences and in their nominalized counterparts.

[14] These non-punctive time-expressions, which we have labelled "durative" in this context, are often classed as so-called "Preverbs" rather than Adverbs in a language such as English – and as such are typically analyzed as part of the Auxiliary complex. However, no such distributional peculiarity applies to this sub-class of Time Expressions in Hebrew – as shown by the position of the underlined elements in (26) of the text. These may come either before or after the main verb of a sentence, yet even in the latter case they do not occur with the corresponding nominals.

[15] Thus, only the (a) expressions below are well-formed — though (iv-b) could constitute a well-formed surface sentence (not NP) lacking an overt present-tense copula, and with no gender, number, or definiteness marking to disambiguate it.

(i) a. [hayəladim hagdolim] haéle
the children the big the those
'those big children'

b. *hayəladim haéle hagdolim

(ii) a. [bito hayafa] šel haikar
girl his the pretty of the farmer
'the farmer's pretty daughter'

b. *bito šel haikar hayafa

(iii) a. [haanašim haməxubadim] še báu itánu
the people the honored that came with us
'the venerable people that came with us'

b. *haanašim še bau itanu haməxubadim

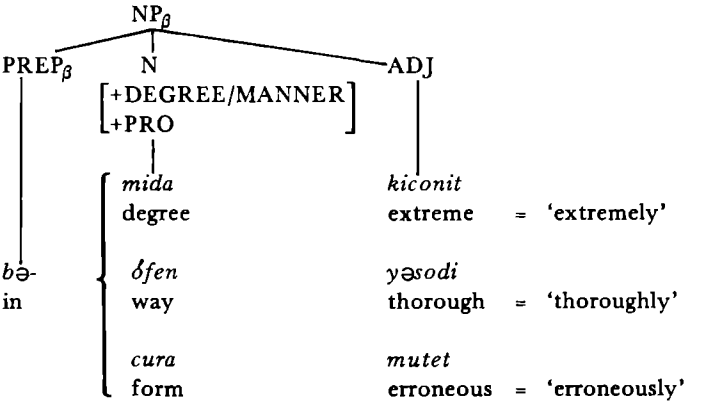
(iv) a. [yayin taim] miyavan
wine tasty from Greece
'tasty wine from Greece'

≠ b. yayin miyavan taim
wine from Greece (is) tasty

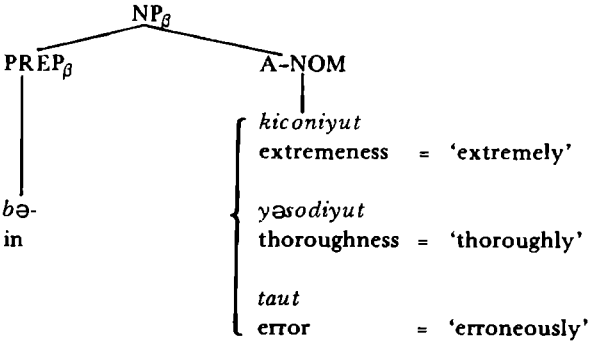
[16] For arguments in favor of viewing surface structure Prepositional Phrases as NP's at a deeper level of structure, see Katz & Postal 1964, 90-94 and Fillmore 1968a, 32-34. For other arguments denying adjectives the status of an independent lexical category, see Bach 1968, Ross 1969b, and McCawley 1970.

[17] Note that Manner (and Degree) Adverbials typically take one of the following two forms in Hebrew, with type (ii) being the least marked of all in surface occurrence:

(i)



(ii)



These two forms are not always interchangeable, and they are subject to numerous lexical idiosyncracies, for example: *bəsimxa* 'with gladness=gladly' but *?bəcura smexa* 'in a glad way' is not used in this sense; *bəxumra* 'with severity' is used in the sense, say, of taking a strong stand on an issue, whereas *bəcura xamura* 'in a severe way' might be used of the degree to which a person is ill; *bəcura kala* 'lightly'/*bəkalut* 'easily', and so on. Morphologically, however, the expressions illustrated in (i) and (ii) are more complex than their corresponding Adjectives. The only exceptions to this are a third, very restricted group of Manner Adverbs, among the most commonly used in the language – e.g., *maher* 'quickly'/*mahir* 'quick', *lə̀at* 'slowly/*iti* 'slow'; elsewhere, in colloquial usage at all events, the same word is used both as the (normative) adjective and as the (non-normative) adverb, e.g., *tov* 'good' and 'well', *yafe* 'nice' and 'nicely', *xazak* 'strong' and 'strongly', etc.

[18] The claim has been made that gerunds, too, can be negated by *iy-* (for instance, by Rosen 1962, 375). The only instances which seem to allow this combination are (i) where the gerund is of the "nominal" type described in Section 9.2.2, e.g., *hu mitnacel al iy-šuvo habáyta* 'he apologizes for not-returning-his=his not returning home'; and (ii) where the gerund is *heyot* 'being' – the (only) nominalized form of the copula verb *haya* – e.g., *hahacaga – im kol iy-heyota muclaxat* 'the-show – with all not-being-its successful = for all its not-being successful'. Elsewhere, it seems that speakers simply use some periphrastic device so as to avoid assigning *iy-* to a gerundive.

[19] Compare this with the well-formed *iy-datiyut* 'non-religiousness', *datiyut* being an instance of A-Nom deriving from the adjective *dati* 'religious'. Notice, next, that all abstract nouns, and not only those we have termed derived nominals, can be semantically negated by lexical items like *xóser* 'lack' or *heəder* 'absence'. Thus:

(i) a. xóser handasa heəder dat
lack of engineering absence of religion

b. xóser imun heəder bitaxon
lack trust/belief absence of security

This again points to the very special nature of *iy-*.

[20] This claim of "all environments" is not strictly speaking correct. Consider, for instance, the following constraints on the occurrence of V-Noms as verb-complements in English (corresponding exactly to their Hebrew counterparts from this point of view).

(i) He refused
  a. the candy.
  b. to consider the idea.
  c. *that the idea be considered.
  d. *consideration of the idea.

(ii) We attempted
  a. the task.
  b. to perform the task.
  c. *that the task be performed.
  d. ?performance of the task.

(iii) I meant
  a. Dick.
  b. to succeed.
  c. that we (should) succeed.
  d. *(our) success.

The precise characterization of what kind of nominals can occur as surface complements of a given verb and the semantic criteria which determine this distribution (if any) lie outside the scope of this study, though it is one which has not even been adequately taxonomized for Hebrew (see Rubinstein 1971 and Ben-Asher 1976 for attempts in this direction). Note that the non-correspondence of the (c) and (d) expressions in the second two examples above indicate that V-Noms are not automatically derivable in all and only cases where *that*-clauses are possible. Moreover, (iii-d) is possible if "mean" has the sense of 'refer to' rather than 'intend' – a sense which would make (iii-a) ambiguous.

[21] A more detailed comparison of these two constructions is provided in Berman 1975b.

11 OTHER VERB-RELATED NOUNS

11.0 INTRODUCTION

In this chapter, we consider nouns which are defined as "verb-related" in the sense that they share given morphological – as well as semantic properties with some word or set of words used as verbs in the language. By "morphological properties" we refer to the specific case of a common consonantal root; by "semantic" properties, we refer to some much less clearly-defined notion of a transparent, non-metaphoric core of meaning. The problem of the formal characterization of such nouns is clearly not unique to Hebrew, as evidenced by such (count) nouns as *entry, assembly, seat, record, song*, or even *proposal* in English. However, for reasons noted in various contexts earlier in this volume (for instance, Section 3.0 – particularly fns. 2 and 3, and Section 3.4.3; Section 8.3; and Section 10.0), the relationship of such nouns to other items in the lexicon is particularly apparent in a language such as Hebrew. One of these reasons is the root-based structure of most of the lexical items of a Semitic language; another is the tradition of analysing noun morphology in terms of *miškal* patterns with explicit reference to verbal roots.

There would seem to be two classes of nouns in Hebrew which can a priori be excluded from the category considered here: the most basic or noun-like, so-called "primitive" nouns, on the one hand, and the most derived or least noun-like action nominals, on the other. Nonetheless, in Section 11.1 below we consider different types of nouns which may be termed "basic" in one sense, but which display properties typical of nouns which are, by our definition, "verb-related." As for the class of derived nouns or V-Noms as characterized in the preceding chapter, they can be distinguished from all other verb-related nouns in various ways: morpho-

logically, as being related to a given *binyan* pattern (discussed in Section 10.3 above); semantically, as displaying a restricted set of properties (Section 10.2); and syntactically as manifesting clear traces of their verbal origin (Section 10.4). Yet Section 11.2 below touches on the problem of the class of nouns which can occur as "cognate objects" in Hebrew: for while these are typically of the same form and meaning as V-Noms, this is not always the case (for example, in *hu xalam xalom* 'he dreamt=had (a)dream', the noun *xalom* does not meet the requirements we stipulated in the preceding chapter as defining properties of V-Noms).

Another class of nouns to which we address consideration (Section 11.3) is that of the so-called Agent Nouns – nouns which are often most transparently "verb-related" in that they take exactly the same shape as present-tense or *benoni*-form verbs (for example, in the different *binyan* patterns there are: *šofet* 'judge', *nispax* '(diplomatic) attaché', *mnahel* 'manager, director', *mitnadev* 'volunteer', *madrix* 'guide, leader'). And, indeed, the "doer" of an action can theoretically be viewed as a lexically predictable and hence rule-bound notion no less than can the "action" itself, as discussed in the preceding chapter.

We also attempt to characterize certain other classes of nouns (Section 11.4) which either may or may not be taken into consideration in traditional treatments of the *miškal* noun patterns discussed in Section 3.4.3. Thus, for instance, "place" nouns like *mispara* 'barber(shop)' and *miltaša* 'diamond-cutting plant' typically are considered as such, as are "instrument" nouns like *mašpex* 'funnel, pourer', *maghec* '(pressing) iron', or names of diseases like *cahévet* 'jaundice' and *kalévet* 'rabies'; but the class of "event" nouns, such as *nəsia* 'journey', *vəaida* 'conference', *tiyul* 'outing' are not usually included in the listing of typical *miškal* functions. We consider a few such classes in Section 11.4 below, and come to the conclusion – as outlined in Section 11.5 – that the lexical characterization of all such nouns requires detailed listing along the two parameters of morphological shape and syntacto-semantic content.

In this chapter, then, we return to an area considered earlier in the book under the general heading of "morphological pattern" (particularly, Sections 3.3 and 3.4): the nature of the lexicon of Hebrew. Many of the problems belong most properly in the area of universal grammar – and we shall merely allude to some of these in passing. Others require a far more extensive coverage than is attempted here in order to give some really general idea of different noun classes in Hebrew. Yet it seems that these questions are of such interest to both general and Hebrew linguistic studies that they merit even such partial consideration as is afforded them below.

11.1 PRIMITIVE NOUNS

Under this heading we consider nouns which in etymological terms are not based on any extant verbal root of Hebrew, where by "verbal root" we mean one used in the formation of at least one verb-form in the language. The term "primitive" is taken from Gesenius (as cited in fn. 3 of Chapter Three) where it is contrasted with "derivative" nouns – the latter being "easily traced back in Hebrew to the verbal idea..." (1910, 225). Below we try to show that it is difficult to motivate this traditional distinction between these so-called primitive or basic nouns and all other nouns of the language, merely because the latter have the same root as one or more verbs currently in use.

Firstly, it has been noted that these basic or "non-derived" nominals are closest to the traditional notion of "a noun" in that they quite generally refer to the names of people, places and things. As Lyons notes (as cited in fn. 3 of Chapter Three), "[they] might well be called substantive nominals ... [and] in notional terms, they are the most 'noun-like' nominals" (1969, 348). True, such nouns typically do stand for everyday objects such as names of animals (*xatul* 'cat', *sus* 'horse', *pil* 'elephant'), parts of the body (*léxi* 'cheek', *katef* 'shoulder', and *yad* 'hand'), furniture (*kise* 'chair', *šulxan* 'table'), etc., but the notion of "everyday objects" is clearly ill-defined, and such a classification seems to be neither a necessary nor a sufficient condition for assigning a given noun to the class of primitive or basic nouns in Hebrew. Thus, alongside of *ec* 'tree' and *síax* 'bush' – both *cémax* 'plant' and *pérax* 'flower' are related to the quite productive and common verbs for 'to grow, shoot up' and 'to blossom', respectively – these latter forms in turn constituting the basis of a variety of other words such as *cimxia* 'vegetation' or *cimxoni* 'vegetarian', in the first case, and *prixa* 'blossoming' and *pirxoni* 'floral', in the second. Similarly, though the word *tikra* 'ceiling' seems to be an isolated case, *ricpa* 'floor' is related to the verb for 'to pave, tile' – in turn the basis for such nouns as *racaf* '(a)tiler', *mircéfet* '(floor)tile', *récef* 'continuum', *racuf* 'continuous', etc. Thus, the set of all and only "primitive" nouns cannot be identified with any given lexical class of items in the sense of some well-defined common semantic property or set of properties.

The few examples given above show that not only is lexical class or "semantic field" an inadequate criterion for specifying which nouns are verb-related or not, but even morphological pattern or *mišKal* cannot do the job. Thus, in addition to the example of *tikra/ricpa* noted above, one

might compare *kivsa* 'lamb', *simla* 'dress', and *pisga* 'peak' – none of which can be related to extant verb roots – with *šixva* 'layer, stratum' relating to š–k–b 'lie down', *gizra* 'declension', today 'derivation' or 'cut (of clothes, of figure)', from g–z–r 'cut, shape', *yira* 'awe' from y–r–? '(hold in) fear'. All these nouns are morphologically similar, being feminine nouns in the pattern CiCCat, with the final /t/ deleting in the "free" form (i.e., when not followed by a pronominal suffix or by a noun-adjunct), forming the regular plural in CCaCot and the construct plural in CiCCot, etc. Yet, the one group – *tikra, kivsa, simla, pisga*, etc. – is traditionally distinguished from the other as "primitive," since *šixva, gizra, yira*, etc. can be related to verb-roots at present extant in the language. The difficulties arising from such a claim are particularly clear when one considers nouns such as *mišxa* 'cream, ointment' – from m–š–ḥ originally 'to smear, to anoint', today used only in the rare sense of 'anoint', *minxa* 'afternoon-prayer' – presumably from n–w–ḥ 'to rest' – and others like them, which historically can be related to verb-roots, but which surely are grasped as being totally "unrelated" or "basic" by ordinary native speakers.

A similarly irregular situation arises in connection with the "segolate" pattern of nouns, as discussed in Section 2.4.1 above. Some nouns in this pattern cannot be related to any verb-roots at all, for instance: *bérez* 'tap, faucet', *kélev* 'dog', *téred* 'spinach' and, probably *bérex* 'knee' (although there is a verb-root b–r–k 'to bless, to greet'). On the other hand, the nouns listed in (1) below can all be related to verb roots used for verbs – as listed on the right, B-n standing for the appropriate *binyan* pattern (verb conjugation) in each case:

(1)

NOUNS		VERBS		
mélex	'king'	m–l–k + B-1	*malax*	'rule'
yéled	'child, boy'	y–l–d + B-1	*yalad*	'give birth'
dérex	'way, path'	d–r–k + B-1	*darax*	'tread'
kénes	'conference'	k–n–s + B-3	*kines*	'assemble'
séfer	'book'	s–p–r + B-3	*siper*	'narrate'

The examples in (1) suffice to show that different types of nouns can all occur in the same morphological pattern – an agent-noun like 'king', an event-noun like 'conference', and object like 'book', etc. – and, where these are related to verb-forms, the relationship is quite idiosyncratic and unpredictable. Moreover, such nouns can themselves form the basis for the development of new verbs in the language (e.g., s–m–l + B-3 today yields *simel* 'symbolize' and thence *simul* 'symbolization' from the noun *sémel*

'badge, symbol'. This process of deriving new verbs from existing nouns in the language rather than vice versa is an extremely common one in Hebrew today (as well as in the past) – denominative verbs being based on nouns in a variety of different patterns, such as: *simel* 'symbolize' from *sémel* 'symbol', *mikem* 'situate' from *makom* 'place', *iter* 'locate' from *atar* 'site', *miked* 'focus' from *moked* 'focus', *iyen* 'consider, study' from *áyin* 'eye', etc. (On the fact that most of the derived verbs are in the *piel* conjugation, see Sivan 1976.)

The question raised by such nouns in the present context is: Can they be considered basic or primitive? Historically speaking, they were indeed not related to any verbal root. But from the point of view of a synchronic grammar and the knowledge of the normal native speaker, it seems that such nouns are no less verb-related than those whose etymology was such that they were, presumably, based on verbs rather than the other way round.[1]

For the reasons outlined above, then, it seems that the traditional division of nouns into two classes – verb-derived and primitive or basic – is irrelevant both from the point of view of morphological shape or pattern and from the point of view of semantic characterization. The question then remains whether some indication of related verbs should be given along with the lexical entry for such nouns – where the following possibilities exist: i) noun alone – e.g., *simla* 'robe, dress'; ii) noun and verb(s) with the relationship not immediately evident – e.g., *miŠxa* 'cream, ointment'/*maŠax* 'anoint'; iii) noun and verb(s), the latter being denominative – e.g., hypothetical **Šipéax* '(to)labor, toil' from the noun *Šifxa* 'maidservant'; and iv) noun and verb(s), with the relationship transparent but irregular or unpredictable – e.g., *Šixva* 'layer, stratrum' from *Šaxav* 'lie (down)'. This is indeed the very crux of how one views the nature of the lexicon in a root-based language such as Hebrew[2] – even ignoring the special problem of loan-words, such as those listed in fn. 1 above.[3] We try to motivate one point of view on this issue at the end of this chapter, in Section 11.5 below. Before doing so, however, we consider a few specific subclasses of verb-related nouns in Hebrew, as further background to our analysis of the Hebrew lexicon.

11.2 COGNATE OBJECTS

Hebrew manifests a construction traditionally termed *musa pnimi* literally 'internal object', akin to what is generally known as a "cognate object" (see, for instance, Fillmore 1968a, 85-88). These constructions can

be described in general terms as follows: They arise when a given verb has associated with it in surface-structure a related nominal which fails to add any further lexical information – as shown by comparing the "cognate object" expressions underlined in (a) below with the other nouns based on the same verb-root in (b). Thus:

(2) (i) a. hu canax cnixa
he parachuted (a) parachuting

b. *hu canax micnax
he parachuted (a) parachute

(ii) a. hu hitnaheg hitnahagut gasa
he behaved behavior rude
'he behaved rudely'

b. *hu hitnaheg nohag/minhag gas
he behaved practice/custom rude

(iii) a. hu xazar xazara pitomit
he returned return(ing) sudden
'he made a sudden return'

b. *hu xazar hexzer/maxzor pitomi
he returned return/cycle sudden

(iv) a. hu amad amida eytana
he stood standing firm
'he made a firm stand'

b. *hu amad emda/maamad ...
he stood post/status

As the glosses for (a) indicate, the cognate object in Hebrew is quite generally used with an adverbial function, so that in a sense (where VN represents the cognate object), the following are paraphrases of each other:

(3) $V_x \overbrace{\quad} VN_x \overbrace{\quad} ADJ_y \quad = \quad V_x \overbrace{\quad} MANN\text{-}ADV_y$

Note that the situation illustrated above applies similarly where the verb in question can – unlike those in (2) – take some other, non-cognate object. Thus:

(4) (i) a. hu raa rəiya nəxona et habaaya
he saw sight correct OM the problem
'he saw=perceived the problem correctly'

b. *hu raa mare/rəi naxon et habaaya
he saw scene/mirror correct OM the problem

(ii) a. hu hitnaged hitnagdut xamura lahacaa
he opposed opposition severe to the suggestion
'he was severely opposed to the suggestion'

b. *hu hitnaged nogdan xamur lahacaa
he opposed antibody severe to the suggestion

Note that the underlined nouns in the (a) sentences of (2) and (4) above all take the form of the *šem peula* 'action noun' type of derived nominal analysed in the preceding chapter. And in fact, in another context we have argued that the ability to function as a "cognate object" is a defining property of "derived nominals" alone (Berman 1973, 347-48). That is, all and only members of the class of V-Noms can occur in this adverbial context – such that the (a) sentences below, which have a cognate object, have the same meaning as the (b) sentences; whereas the (c) sentences, which have some other "verb-related noun," have the meaning of those in (d). Thus:

(5) (i) a. hu kotev ktiva brura
he writes writing clear

b. hu kotev bəofén barur
he writes in way clear
'he writes clearly'

c. hu kotev mixtav/katava brura
he writes (a) letter/report clear

d. hu kotev mixtav/katava še hi brura
he writes (a) letter/report that it (is) clear
'he writes a clear letter/report'

(ii) a. hem rau et hainyan rəiya muzara
they saw OM the matter seeing odd

b. hem rau et hainyan bəórax muzar
they saw OM the matter in manner odd
'they saw=perceived the matter in an odd fashion'

c. hem rau mare muzar
they saw scene odd

d. hem rau mare še haya muzar
they saw scene that was odd

The situation is not quite so straightforward, as these "cognate objects" can often be given a concrete type of interpretation which sets them apart from the class of what we defined as "derived, action

nominals" (see Sections 10.2.1 and 10.2.2). Examples include such expressions as the one noted in Section 11.0 above, *xalam xalom* 'dream (a)dream', where the verb *xalam* has no attested action nominal such as **xalima*, and also *xašav maxšava* 'think (a)thought' – where the verb *xašav* does have a related V-Nom in the form of *xašiva* '(act, process of) thinking'. Here it seems that we move out of the area of fairly straightfoward generalizations of the kind noted so far in this section, back into the swamp of lexical anomaly with which this chapter is basically concerned. For note that the nouns *xalom* '(a)dream' and *maxšava* '(a)thought' – both referring to the product of the act or process rather than to the act or process itself – are the only possible (direct) objects of the verbs *xalam* and *xašav* respectively. That is, there is no **xalam siyut* 'dream (a)nightmare' or **xašav raayon* 'think (an)idea' – though these combinations are semantically quite feasible.[4]

It thus seems that the class of actual and potential "cognate objects" is largely but not entirely equivalent to the class of "derived nominals" in Hebrew. Where there is no overlap, the residue of special cognate object nouns constitutes a subclass of "verb-related" nouns which function quite typically in Hebrew;[5] these need to be entered in the lexicon as part of the idiosyncratic properties of a given **verb**, just in case they do not take the form of the associated V-Nom "derived nominal."

11.3 AGENT NOUNS

The subclass of Agent Nouns is of interest for a number of reasons: Firstly, in the transformationalist characterization of lexically related items (see fn. 2 to Chapter Eight), two types of "verb-related nouns" are typically alluded to: derived or action nominals of the kind discussed in Chapter Ten, and "agent nouns" like English *writer, author, aggressor, professor.* Secondly, one class of nouns for which a given *miškal* pattern is assigned a clearly-defined interpretation in traditional Hebrew studies is that of the so-called *baaley mikcóa* 'members-of professions (or occupations)', such as: *tabax* 'cook', *sapar* 'barber', *xayat* 'tailor', *balaš* 'detective', *nagar* 'carpenter', etc. Thirdly, in Hebrew the same words – in the sense of identical phonetic strings – can function as both verbs and nouns. Thus the following words are all *benoni* (present-tense) verbs in the *binyan* patterns indicated respectively but, as the glosses show, they can also function quite regularly as full-fledged, independent agent nouns. (Deviations from the paradigm forms listed are generally due to the existence of weak root consonants, as discussed in Section 3.2 above.)

(6) B-1: CoCeC

poel	'worker'	*šofet*	'judge'
orex	'editor'	*yoreš*	'heir'

B-2: niCCaC

nispax	'attaché'	*nixbad*	'elder, worthy'
neešam	'accused'	*needar*	'absentee, missing person'

B-3: məCaCeC

mnahel	'manager'	*məvaker*	'critic'
mənatéax	'surgeon'	*məragel*	'spy'

B-3_{ps}: məCuCac

məšumad	'cónvert'	*məlumad*	'scholar'
məšuga	'madman'	*mənude*	'outlaw'

B-4: mitCaCeC

mitnadev	'volunteer'	*mistanen*	'infiltrator'
mitagref	'boxer'	*mištatef*	'participant'

B-5: maCCiC

manhig	'leader'	*marce*	'lecturer'
mazkir	'secretary'	*maškif*	'observer'

B-5_{ps}: muCCaC

musmax	'graduate'	*muzman*	'invitee'
mumxe	'expert'	*muamad*	'candidate'

The problem we are concerned with in this section is the following: Where do such words as those listed in (6) above "belong" lexically; that is, how are they perceived by native speakers and how are they to be characterized in the lexicon? Are they automatically associated with the corresponding verbs in each case – with some added property which has turned them into nouns? Or are they one morphologically unique class (rather, group of classes) of the overall set of Agent Nouns in Hebrew? Below, we try to motivate our claim that the second solution is more appropriate.

In an earlier context we noted that *benoni* forms in general manifest certain non-verbal properties even when they function in a manner very similar to that of finite verbs in the past or future (Section 5.2 above). We further noted that they also fulfil the function of participles in Modern as in Classical Hebrew (Sections 5.3 and 5.4 above).[6] It is this dual function of a single form which accounts for the surface ambiguity of such

expressions as the following, where the underlined *benoni* form is interpreted as a verb in (a) and as a noun in (b).

(7) (i) dan mnahel misradénu
a. Dan manages our office
b. Dan is manager of our office

(ii) hen madrixot tayarim
a. they (Fem) guide tourists
b. they are guides of tourists = 'tourist guides'

(iii) hem šomrim bamusax
a. they guard in the garage
b. they're guards in the garage

(iv) rina marca šam
a. Rina lectures there
b. Rina's (a)lecturer there

These can clearly be disambiguated by appropriate syntactic clues of the following kind: *et* as accusative marker associated with the verb will alternate with the genitive particle *šel* with the noun as in: *dan mnahel et hamisrad* 'Dan manages OM the-office' compared with *dan mnahel šel hamisrad* 'Dan (is) manager of the-office'; temporal adverbials associated with the verb contrast with relative clause modifiers for the noun as in: *hen madrixot kše hatayarim rocim bahen* 'they guide when the-tourists want (in)them' vs. *hen madrixot ašer hatayarim rocim bahen* 'they (are) guides that the-tourists want (in them)'; manner adverbs for the verb contrast with adjectives for the noun as in: *hem šomrim biyəilut* 'they guard efficiently' vs. *hem šomrim yəilim* 'they guards efficient = they're efficient guards', and so on.

What emerges, then, is a situation where two syntactically distinct items – verb and noun respectively – coalesce into one single form on the surface. But these two items are either very clearly verbal, in that they take the same complements and modifiers as any finite verb, or strictly nominal, in which case they pattern syntactically like any other "basic" or non-derived noun in the language. Agent nouns are thus not on a par with the set of "derived nominals" analysed in the preceding chapter, for the latter, as noted in Section 10.4.5 above, typically retain overt syntactic traces of their verbal origin. Note further, that this total syntactic "split" is evidenced only with respect to one subset of all the verbs in the language, in the following sense: All verbs can occur in the *benoni* form, just as they can occur in the past or future tense, in the infinitive, etc.;

the *benoni* is unique among verb-forms in that all items in the *benoni* typically manifest certain nominal properties such as forming the head of bound genitive constructions, taking the definite marker *ha-*, and so on (Section 5.2 above); of the total set of verbs, some have *benoni* forms which happen to function in the current lexicon as independent nouns (or adjectives, as noted in fn. 6) – for instance, those listed in (6) above. Such words manifest no syntactic trace of their verbal origin in terms of negation, modification, complementation, or any other properties which might distinguish verbs from nouns (as noted in Section 8.2 above).[7]

Ideally, one would wish to provide some semantic motivation to specify the members of this latter subset of Hebrew verbs – those whose *benoni* forms also have independent noun status in the language.[8] However, if we take the ability to constitute both head and adjunct of a genitive *smixut* construction with *šel* 'of' as our syntactic criterion of "full noun status" (see Section 7.2.2 above, particularly subsection (b) thereof), it seems a matter of lexical accident alone that *noten* 'giver' does not have full noun status, whereas *torem* 'donor, contributor' does; *məṭaer* 'describer' does not, but *məsaper* 'narrator' does. This claim of "lexical accident" is strengthened by the constant addition of new agent nouns to the language in the form of recent coinages such as, say: B-1 *tovéa* 'prosecutor', B-2 *nispax* 'attaché', B-5 *mafil* 'operator (of a computer)', etc.

Another argument favoring our "lexicalist" view[9] of the characterization of Agent Nouns with a surface identity to *benoni* verbs is the following: the precise semantic content of any given Agent Noun is not automatically derivable from the meaning of the base-verb itself. Firstly, the notion of Agent Noun is itself a complex one. Even if we confine it strictly to [+HUMAN] nouns alone – thereby dismissing from consideration for the time being the class of semantically and morphologically related Instrument Nouns (Section 11.4.1 below) – the notion of Agent Noun subsumes such senses as: (i) a habitual occupation, usually for the purpose of earning a living, e.g., B-1 *poel* 'laborer' or B-5 *marce* 'lecturer'; (ii) an activity or occupation which may be sporadic or intermittent, such as B-1 *noem* 'speaker=speechmaker', B-5 *manxe* 'moderator'; and (iii) a character or physical trait typical of a given person, such as B-1 *noxel* 'swindler, cheat' or B-3 *məgamgem* 'stutterer'.

Secondly, and more crucial to the point of view taken here, the "derived" or Agent-Noun word generally seems to entail some unpredictable restriction of the sense of the base-verb. Thus while the verb *orex* means quite generally 'to arrange, to put in order, to set (a table, etc)', or

'to conduct (a survey, an investigation, etc.)', the noun *orex* has the restricted, specific sense of 'editor'; the two verbs B-1 *cofe* and B-5 *maškif* are close in meaning, having the general sense of 'watch, observe' – yet *cofe* is used as a noun in the sense of 'scout' (including a boy scout, one who goes in for camping, etc. – but not a patrol-scout or scavenger), as well as in the sense of 'spectator' (member of an audience or somebody watching a football match) and 'viewer (of television)', while *maškif* as a noun has only the restricted sense of 'observer' as in the case of "UN Observers." (Moreover, other verbs with much the same sense as these two words – such as B-4 *mistakel* or B-5 *mabit* 'look at' – are not used as independent Agent Nouns at all.)

As such examples indicate, it is hard to predict precisely what aspect or aspects of the meaning of the base-verb will be brought to play in its use as an Agent Noun. Thus, there is little enough in the B-5 verb *mazkir* 'remind, mention' (relating to B-1 *zaxar* 'remember') to indicate how it is actually used as an Agent Noun meaning 'secretary' (both in the sense of private secretary to a boss and as party-secretary, secretary of a committee, etc.); the verb *madrix* – related to the noun *dérex* 'way, path' and meaning something like 'guide, show the way' – is homophonous with a noun which is used in such contexts as instructor (at the university, in a workshop), youth (club) leader, (thesis) supervisor, but is not the standard term for (tourist) guide. And compare B-5 *mavríax* 'cause to run away, frighten away, smuggle/smuggler'; B-1 *kosem* 'enchant, delight, fascinate/magician'; B-3 *məxaber* 'assemble, put together, combine, compose/author'.

Next, there are idiosyncratic alternations with respect to the specific value of Gender associated with certain Agent Nouns. Generally speaking, an Agent Noun can be either Masculine or Feminine, in keeping with the real-world referent associated with it in a given context. Thus: B-1 *šofet/šofétet* 'judge', B-1 *mnahel/mnahélet* 'manager, director', B-5 *mazkir/mazkira* 'secretary' – the second word in each case being feminine. Yet with words such as *toféret* 'sewer=dressmaker, seamstress' or *məvašélet* 'cook(er)' – only the feminine form is actually used as an Agent Noun and not the corresponding *tofer, məvašel.* These constraints are obviously determined by a given cultural context, which would also explain why only the feminine forms of *mətapélet* '(children's) nurse', *məyalédet* 'midwife' are used as Agent Nouns. (In fact, such restrictions are not confined to *benoni* form Agent Nouns; compare the feminine *ganénet* for 'nursery-school teacher' from *gan* 'nursery-school, kindergarten' – with masculine *ganan* 'gardener'.) Another instance of usage which cannot be

explained in other than extra-linguistic terms is the contrast between masculine *ozer* 'aide, assistant, deputy' and feminine *ozéret* 'household help, cleaning-woman' from the root '–z–r 'assist, help'.

One last anomaly is the following: Selectional constraints with respect to choice of accompanying NP's which apply to a given verb do not necessarily carry across to its associated Agent Noun. Consider, for instance, the verbs *poel* and *oved*, both meaning roughly 'work'. The former often has non-human subjects, when used in the sense of 'operate' – as in *hamanóa poel* 'the-engine is-working', *hamangənon paal* 'the-apparatus/mechanism worked', *hašita tifal* 'the-system will-work'; *oved*, on the other hand, has the sense of 'work' meaning 'toil, labor' and as such it generally has an animate subject – as in *hu oved kmo sus* 'he works like (a)horse', *hatalmidim avdu kaše lifney habxinot* 'the-students worked hard before the-exams', etc. – where the verb *paal* would not be used. Yet note what happens with respect to the "related" Agent Nouns: The noun *poel* generally refers to someone who engages in manual labor, such as *poaley hanamel* 'port workers', *poélet nikayon* '(a)cleaning worker/woman' – yet the noun *oved* is used for white-collar workers, as in *ovdey mdina* 'workers-of state=civil servants', *oved univérsita* 'university worker= personnel-member'. In other words, there is no congruence between the precise restrictions applied to the general notion of 'work' with these two words as verbs as opposed to nouns. This pair of words provides further evidence for the lack of one-to-one semantic equivalence between Base (*benoni*) Verb/Agent Noun in the language.

In view of these anomalies, it seems misleading to try to represent these verb/noun relations transformationally by deriving any instance of, say, surface *poel* 'worker, laborer' from some underlying sentential source of the sort *adam še poel* '(a)person that works' or *mazkir* 'secretary' from underlying *exad še mazkir* 'one that reminds'. (For an attempt to provide a transformational derivation of *benoni* form Agent Nouns, see Berman 1973, 187-195.) Besides, as noted in fn. 8 above, *benoni* verb-forms account for only one subset of all the Agent Nouns currently in use in the language. Others include:

(8) (i) Verb-related nouns in the *miškal* pattern CaCCan:

rakdan	'dancer'	*saxkan*	'player, actor'
akšan	'stubborn one'	*xanfan*	'flatterer, sycophant'

(ii) Verb-related nouns in the *mišKal* pattern CaCaC:

ganav	'thief'	*tabax*	'cook'
banay	'builder'	*nahag*	'driver'

(iii) Denominative nouns in patterns (i) and (ii) above:

a.		b.	
lavkan	'albino'	*malax*	'sailor'
balšan	'linguist'	*sayad*	'whitewasher'

(iv) Denominative nouns in other patterns:

xašmelay 'electrician'	*xaklay* 'agriculturist'

(v) Loan-words:

profesor 'professor'	*adrixal* 'architect'
məhandes 'engineer'	*praklit* 'attorney'

There is clearly no semantic basis to the choice of one or other of the morphological options open to the Hebrew lexicon in creating a given Agent Noun. Thus, consider the following semantically-related words, arrayed in different morphological patterns:

(9)

	VERB Root		AGENT NOUN *Benoni* Form	CaCaC	CaCCan	Other
B-1	š–d–d	'burgle'	*šoded* 'burglar'			
	g–n–b	'steal'		*ganav* 'thief'		
	g–z–l	'rob'			*gazlan* 'robber'	
B-3	š–q–r	'lie'			*šakran* 'liar'	
	r–m–y	'deceive'		*ramay* 'cheat'		
	n–k–l	'beguile'	*noxel* 'crook'			
B-1	b–g–d	'betray'	*boged* 'traitor'			
	'–r–q	'desert'				*arik* 'deserter'

Similarly, in the following semantically related pairs, only the word in the (a) column has a *benoni* form:

(10) a)	*toféret*	'dressmaker' (Fem)'	b) *xayat*	'tailor'
	məvašélet	'cook' (Fem)'	*tabax*	'chef, cook'
	məamen	'coach, trainer'	*saxkan*	'player'
	məšorer	'poet'	*zamar*	'singer'
	mənacéax	'conductor'	*nagan*	'instrumentalist'
	mitamel	'gymnast'	*rakdan*	'dancer'

As these examples show, the issue is not necessarily the relationship between *benoni*-form Verb/*benoni*-form Agent Noun, but rather of Base-Verb/Related Agent Noun in general. Although the surface identity of the former pair of correspondences is particularly striking, it does not seem to be any more or less productive and general than, say, the *-er/-or* agent suffix of English. Indeed, the particular choice of morphological form is obviously a matter for the lexicon, along the lines suggested below (compare, say, English choice of suffixing *-ian* or *-ist*, no change as in 'cook', special word as in 'soldier', etc.):[10]

(11) (i) Root_a, $binyan_x$ → [+AGENT NOUN]
(ii) Root_b, $binyan_x$ → {[+AGENT NOUN], [$MIŠKAL_j$]}
(iii) Root_c, $binyan_x$ → {[+AGENT NOUN], [$MIŠKAL_k$]}

where (i) would stand for the unmarked *benoni* form of agent nouns, (ii) for verb-based agent nouns in CaCCan, (iii) for verb-based agent nouns in CaCaC, etc. (Note that this type of entry presumes that the "root" serves as the lexical prime in such cases – a point we return to in our summary in Section 11.5 below.)

With respect to the semantic content of agent-nouns both as independent entities and in relation to their "base-verbs" where such exist, the issue seems crucially to devolve upon two questions. Firstly, what is the generality or productivity of such processes for deriving agent-nouns in Hebrew? Here, the morphological relationship is clearly evident (though the specific pattern selected is arbitrary, as shown in (9) and (10) above) both for verb-related forms and for denominative forms which fall within an established *mišxal* pattern. The semantic relationship does entail such notions as "occupation, habitual activity, characteristic," etc. – despite the anomalies noted earlier in this section. And new nouns with these meanings are most likely to be formed in the morphological patterns discussed above.

The second question relates to the psychological basis of the lexical representation selected for such items. As noted in Sections 5.2 and 5.3 in

our discussion of *benoni* form verbs, it seems to us that Hebrew speakers view *benoni* forms first and foremost as verbs. On the other hand, it seems reasonable to suppose that they also have an intuitive notion of a class of words which we have termed "agent nouns" – and as such they would tend to group together such etymologically and morphologically diverse forms as: B-1 *rofe* 'doctor' (cf. B-3 *mərape* 'heal, cure'), B-3 *mənatéax* 'surgeon', and the "basic" or primitive noun *axot* 'sister=nurse'; or B-1 *sofer* 'writer', CaCaC *cayar* 'painter' and *pasal* 'sculptor' as well as the denominative B-5 *malxin* 'composer'; and *benoni* forms like *more* 'teacher' (cf. *məlamed* 'teach'), *madrix* 'instructor', *marce* 'lecturer', *ozer* 'assistant' and the loan-word *profesor.*

In summary, it seems that in strictly linguistic or "grammatical" terms one could derive all possible combinations of roots plus meanings – and then indicate all the manifold gaps noted above as truly accidental. The lexicon listing, however, would include a detailed characterization of what speakers not only can but in fact do select from the entire repertoire available to them, their choice being determined by such extra-linguistic and non-rule-bound factors as custom and usage. As we shall see below (Section 11.4) in a brief survey of a few other classes of "verb-related" nouns in Hebrew, the total repertoire in principle includes all but not only roots plus meanings ("not only," because of "primitive" nouns as discussed in Section 11.1 above), and it is out of this total repertoire that speakers at any given time and using any given dialect make their choice of the lexical items in their vocabulary.

11.4 SOME OTHER CLASSES OF NOUNS

In this section we review a few additional classes of verb-related nouns, in the sense in which this notion is characterized at the outset of this chapter (Section 11.0). Basically, the classes discussed in this section are chosen to illustrate the more general problem of the characterization of the interrelations between the different properties of: Root, Pattern, Meaning. The three groups chosen here are: i) Instrument Nouns, which share both morphological and semantic properties with the class of Agent Nouns discussed in the preceding section; ii) Event Nouns, which share certain morphological and semantic properties with the class of Action Nouns discussed in Chapter Ten; and iii) Place Nouns, as an instance of a seeming simple but in fact complex class of nouns in both morphological and semantic terms.

11.4.1 Instrument Nouns

There are several nouns which morphologically take the form of *benoni* verbs, which cannot be characterized as Agent Nouns in the sense noted in Section 11.3 above. Specifically, these are non-animate nouns which refer to some concrete instrument or device, the (physical) wielding of which generally has a specific effect; in other words, they are objects used as a means for performing some physical action with a definite purpose. Examples are given below according to *binyan* pattern, where those in (i) have the status of independent or "free" nouns, those in (ii) are used in a fixed sense in bound *smixut* noun compounds.

(12) (i) B-1 *mone* 'meter' (as in 'gas-meter, speedometer')
B-3 *məavrer* 'ventilator' (from the noun *avir* 'air')
B-5 *maxšir* 'instrument'

(ii) B-1 *šoev avak* 'drawer-of dust = vacuum cleaner'
B-5 *magbir kol* 'amplifier-of voice = loudspeaker'
B-5 *movil máyim* 'carrier-of water = watercarrier'

The number of instrument nouns actually taking the *benoni* form is far more restricted than the agent nouns in this form. But the quite productive nature of this alternation is manifested by the following fact: Colloquial usage very often prefers the *benoni* B-3 form in place of the classic *miškal* pattern for instrumental nouns, maCCeC, as shown below:

(13)

COLLOQUIAL B-3 FORM	NORMATIVE MaCCeC FORM	
məgahec	*maghec*	'(an)iron'
məsanen	*masnen*	'filter'
məxašev	*maxšev*	'computer'
məfacéax	*mafcéax*	'nutcracker'

On the other hand, the maCCeC pattern is very common for other instrument nouns, both well-established ones like *maftéax* 'key' from p–t–ħ 'open', *mašpex* 'funnel' from š–p–k 'pour', and more recent coinages like *maklet* 'receiver' or *mašder* 'transmitter'.

Again, however, the same kind of anomalies as were noted for Agent Nouns apply here, too. In morphological terms, compare *masrek* 'comb' with *mivréšet* 'brush'; the dual plural forms *misparáyim* 'scissors' and *melkaxáyim* 'forceps' (from s–p–r 'cut (hair)' and l–q–ħ 'take', respectively); non-verb-related ("primitive") forms such as *garzen* 'axe', *kli* 'tool', *et* 'spade'; or loan-words like *radyo* 'radio' and *patifon* 'phonograph'. And again, a given instrument noun cannot be interpreted in predictable

fashion on the basis of its form alone: compare, for instance, *maftéax* 'key' and *potxan* '(bottle) opener' – both from the root p–t–ħ 'open'. And the selectional constraints of verbs and nouns differ as well: the verb { B-3 + w–s–t } 'regulate' quite generally takes a human agent, but as a noun *məvaset* refers to an inanimate instrument 'regulator'; similarly, the verbs *maxšir* 'prepare, train, make ready (for use)' and *movil* 'bring, direct, lead' both require human subjects, but as nouns, these words refer to quite specific physical objects – 'instrument, tool' and '(water)carrier', respectively.

The subclass of Instrument Nouns thus illustrates the same kind of lexical irregularities and anomalies as do the Agent Nouns discussed in the preceding section.

11.4.2 **Event Nouns**

This subclass of nouns is characterized in some detail by Lyons (1969, 346-49) as a specific type of what he terms "second-order nominals" (in contrast with "first-order nominals" which denote substances, and which are equivalent to one type of "primitive nouns" as discussed in Section 11.1 above). Proposing a unitary transformational derivation for such expressions as "the demonstration took place on Sunday," "they demonstrated on Sunday," and "the demonstration was on Sunday," Lyons proposes that "such 'verbs' as *occur, happen, take place*, etc. ... be treated as temporal and locative copulas" where the category of copula is analysed as "a purely grammatical 'dummy' serving as the 'locus' for the indication of tense, mood and aspect" (p.346).

The class of "event nominals" can thus be characterized as nouns which can have temporal and/or locative reference and which can be the grammatical subjects of "happening" verbs like 'take place, occur, be held' (Hebrew *hitraxeš, hitkayem, neerax*) as well as of "durative" verbs like *nimšax* 'continue', *arax* 'last', etc. The transformationalist view advocated by Lyons for such nouns is particularly appealing in Hebrew, where many Event Nouns take the same surface form as Action Nouns (as discussed in Chapter Ten) and can hence be overtly associated with given verbs and verb-patterns or *binyanim*; thus, for example:

(14)

B-1	*yəšiva*	'sitting=meeting'
	pəgiša	'meeting=encounter'
	nəsia	'journey, voyage'
	xagiga	'celebration, festival'
	nəsiga	'retreat'
	pšita	'raid'
B-3	*bikur*	'visit'
	kinus	'congress'
	siyur	'tour (of a place)'
	diyun	'discussion, debate'
B-5	*hafgana*	'demonstration'
	harcaa	'lecture'
	hatkafa	'attack'
	hacaga	'show, performance'

Note that all the above nouns are potentially ambiguous: they may be used either as "derived nominals" (in the sense in which we define the term for all and only members of the category of V-Noms in Sections 10.2 to 10.4 above) or as "event nominals" in the sense briefly noted above. Compare the (a) examples of V-Noms (and their paraphrases) with the (b) examples of Event Nominals in the following:

(15) (i) a. yəšivati bamakom haze gorémet li sipuk
sitting my in this place causes me satisfaction
hauvda še ani yošev bamakom haze ...
the fact that I sit in this place
'my sitting (=dwelling) in this place gives me satisfaction'

b. yəšivat hamemšala hitnahala etmol biyrušaláyim
sitting of the Cabinet took place yesterday in Jerusalem
'the Cabinet meeting took place in Jerusalem yesterday'

(ii) a. bikur xolim hu micva
visiting of sick (Pl) it good deed
ləvaker xolim ...
to visit sick
'visiting sick people is a good deed'

b. habikur écel haxole neerax mizman
the visit to the sick(man) took place long ago

(iii) a. rabim hitnagdu ləhacagat hamaxaze al bimotéynu
many opposed to performance of the play on our stages
rabim hitnagdu ləze še hicígu et hamaxaze ...
many opposed to it that (they)performed OM the play
'many people were against the play being performed on our (=the local) stage'

b. rabim hitnagdu lahacaga še hitkáyma
many (were)opposed to the show that took place
kan émeš
here last night

The criteria noted in Chapter Ten for classing a nominal as "derived" and those noted briefly here for characterising members of the class of event nominals suffice to disambiguate these forms in semantic and syntactic terms. Note, however, that morphology is again neither a sufficient nor a necessary criterion for characterising a given noun as [+EVENT]. The words in the left-hand column below – in contrast to those in (14) above, which can be either Action Nouns or Event Nouns – are examples of Event Nouns which differ morphologically from their related Action Nouns to the right:

(16)

EVENT NOUNS		ACTION NOUN	
meruc	'race'	*rica*	'running'
masa	'hike'	*nəsia*	'journey'
kénes, *veida*, *acéret*	'conference, assembly'	*kinus*	'congress'
mifgan	'tattoo (military)'	*hafgana*	'demonstration'
mofa	'show (entertainment)'	*hofaa*	'appearance'
tcuga	'exhibit(ion)'	*hacaga*	'performance, show'

Besides, there are Event Nouns, too, which are not clearly derived from any extant verb-root, such as: *təuna* 'accident', *šiur* 'lesson', *toxnit* 'program', *krav* 'battle', as well as loan-words like *festival, koncert, simpozyon*, etc. Again, we encounter a relatively well defined class of nouns – in this instance, ones semantically appropriate to certain kinds of syntactic constructions – which are morphologically unpredictable in terms of a given *mišKal* pattern or group of patterns.

11.4.3 Place Nouns

Unlike the classes of nouns noted in the preceding sections, the set of nouns which can be characterized as having the property "place" is semantically not easily defined. If we say that such nouns may serve as the head of [+LOCATIVE] expressions (in itself a circular kind of definition), what happens to nouns like *kise* 'chair' or *məgira* 'drawer' in expressions such as: "he was sitting on the chair (when it broke)" or "put the papers in the drawer over there" or even "hand" as in "the thing you're looking for is right by your hand"? As these examples indicate, the problem is not language-specific, and we shall confine our remarks here to a few points of interest with respect to Hebrew – assuming some intuitive notion of "place nominals," possibly as nouns which can occur with the predicates *higía el* 'reach (to), arrive at' and *hitraxek min* 'go (far) away from, remove oneself from', or *bəxivun šel* 'in the direction of'.

Place nouns, like instrument nouns, are typically associated with a given *miškal* pattern in traditional Hebrew grammars, namely miCCaCa. To mention but a few of the anomalies: *misada* 'restaurant' is not based on the everyday word *axal* 'eat' (cf. *xadar óxel* 'room-of food=dining room') but on the more specific, restricted *saad* 'dine'; *mirpaa* 'clinic' (in colloquial usage *marpea*) is based on B-3 *ripe* 'cure, heal', but *minhara* 'tunnel' is not obviously based on any verb-root now in use, and *mitkafa* is an Event Nominal meaning 'attack, assault'. Also, from the root y–š–b 'sit, dwell, settle', we get the Place Nouns *yišuv* '(a)settlement', *mošava* 'farming-village', and *mošav* 'cooperative farming-village' compared with *kibuc* 'communal village' – the V-Nom form of q–b–c 'gather together' – and the "primitive" *kfar* 'village' or *krax* 'city'.

What these few examples indicate is the following: Morphology is of very marginal help here, too, and a semantic characterization would have to justify the overall notion of "place" in terms of a variety of different possible predicates, such as 'reside in', 'work at', 'walk towards', 'visit' (where Hebrew *biker* makes a formal distinction between *biker et/écel* 'visit OM/by (a person)' and *biker bə-* 'visit in=at (a place)'), etc. Moreover, there might be overlap between such nouns and nouns standing for the class of "institutions" (as briefly described in Berman 1973, 430-31).

11.5 SUMMARY AND CONCLUSIONS

In view of all that has been said above, it seems that by and large morphological form is neither a sufficient nor a necessary criterion for assigning a given class of nouns to anything other than a surface pattern –

the latter being relevant mainly for the **phonological** characterization of its members. In the preceding sections, we tried to show that a given type of noun, in terms of syntacto-semantic classification (e.g.; "basic" nouns or "substantives" in Section 11.1, Cognate Object nouns in 11.2, Agent nouns in 11.3, and Instrument, Event and Place nouns in 11.4), need not necessarily be associated with a given morphological shape or set of shapes. A brief review of our earlier remarks (specifically, in Section 3.3.3 above, in our discussion of *miškal* patterns as an important aspect of Hebrew morphology) shows, moreover, that a given morphological shape is no guarantee of how a noun will be interpreted, either. This latter claim is further illustrated by the glosses given below, where the words in Column A are "verb-related," those in B are not derived from an existing verb-root in the language. (Again deviations from the paradigmatic pattern are due to the occurrence of weak or defective root-consonants.)

(17)

		A		B	
(i)	CéCeC	*kénes*	'congress'	*délet*	'door'
		yéled	'child'	*néxed*	'grandchild'
		pérax	'flower'	*bérez*	'tap, faucet'
(ii)	miCCaC	*mixtav*	'letter'	*midbar*	'desert'
		mispar	'number'	*minšar*	'manifesto'
		minhag	'custom, habit'	*mivrak*	'telegram'
(iii)	CiCaCon	*zikaron*	'memory'	*xilazon*	'snail'
		bitaon	'journal, organ'	*teavon*	'appetite'
		cimaon	'thirst'		

11.5.1 The Morphology of Root + Pattern (*miškal*)

We must thus reject the tradition of Hebrew "grammars" (in the sense described in Chapter Three, fn. 10) of identifying a given meaning with a given *miškal* and vice versa. Nonetheless, we feel that the notion of *miškal* is a valuable and relevant one which should be retained in characterizing the lexicon of Modern Hebrew. Firstly, it is an economical way of deriving the **phonological** characterization of Hebrew words – in as regular and direct a way as is generally done for verbs. For, as noted in Section 3.3.2 above, it seems clear that any "verb" in Hebrew can be morphophonologically uniquely defined as a combination of { ROOT + *BINYAN* PATTERN }. See also Aronson 1969. Our claim here is that any

other lexical formative – basically, noun or adjective – can also be likewise described as a combination of { ROOT + *MIŠKAL* PATTERN } – the reasons for our division of the lexicon into *binyan*-assigned items and *miškal*-assigned items having been specified in Section 3.4.3 above. In other words, we are claiming that **any** lexical formative or "content-word" in the lexicon can and should be characterized in terms of the two properties of Root + Pattern. True, as noted in Section 11.1, there are many so-called "primitive" nouns which are not based on any extant verb-root; these can be assigned hypothetical consonantal roots, with a specification that these roots are at present non-functional for the verb-system of the language.[11] On the other hand, there are – as is also noted in Section 11.1 – nouns that have formed the basis for verb-formation, rather than the other way round; however, the reaction of informants questioned by myself and others (see fn. 10 above) indicates that naive Hebrew speakers generally do not know whether a given noun is based on a verb root or is itself the basis for a denominative verb coinage. That is, from the point of view of the native speaker, the following nouns are morphologically identical: contemporary *délek* 'fuel' – based on the Biblical verb for 'kindle, set alight'; *dégel* 'flag' – occurring as such in the Bible, today the basis for the denominative verb *dagal (bə-)* 'advocate, be in favor of'; *délet* 'door' with no related verb form (but understood quite freely by children presented with the word *dilet* in the sense of 'close a door (to a house or room, etc.)'; or contemporary *dégem* 'model' – based on earlier *dugma*, from whence also the denominative verb *hidgim* 'illustrate, demonstrate'.

On the basis of such psycholinguistic evidence, and in keeping with the radical nature of a Semitic vocabulary, we would continue to maintain the two elements of both root and *miškal* as the basis for non-verabl lexical entries in Hebrew. That is, the lexical prime would be the root – which in some but not most cases might be quite non-functional in actual usage, while in other cases it might be the basis for a denominative verb rather than for a verb-based noun.

The next question concerns the nature of the *miškal* patterns themselves. We have tried to show that it is misleading to identify a given meaning with a given pattern or vice versa. Nonetheless, it does seem worth taking account of the most salient or unmarked characteristics of those few *miškal* patterns which seem quite clearly to be very productively used in association with a given semantic class of nouns. Examples include:

(18) (i) CaCécet – illnesses (denominative):

šaélet	'whooping-cough'	*kalévet*	'rabies'
adémet	'measles'	*xazéret*	'mumps'
cahévet	'jaundice'	*dabéret*	'logorrhea'

(ii) maCCeC – instruments, tools:

maxšev	'computer'	*mavreg*	'screwdriver'
mašpex	'funnel'	*maghec*	'iron'
maftéax	'key'	*masrek*	'comb'

(iii) CaCiC – susceptibility, ability (adjectives):

kari	'legible'	*axil*	'eatable'
šavir	'breakable, fragile'	*šamiš*	'usable'
parix	'crumbly'	*dalik*	'flammable'

Here we would suggest a device analogous though not identical to the listing proposed elsewhere for *binyan* patterns in verbs (Berman 1975c): for one subset of *miškal* patterns, like those illustrated in (18), the most unmarked, productive use in contemporary Hebrew be entered as $F_{\emptyset}$ – the basic "function" or value of that *miškal*; in the few instances where such a *miškal* might have a secondary function – e.g., for (18-i) above, the feminine version of human "agent nouns" like *samélet* '(woman)sergeant', *nahéget* 'woman-driver', *ganénet* '(woman)nursery-school teacher' – an additional, more marked value, F_1, would be specified. All other instances of words in the same *miškal* would have to be listed outside of these paradigm cases, as "exceptions" – e.g., for (i) above, words like *rakévet* 'train' (originally from r–k–b 'ride, travel'), *caméret* 'topmost foliage, upper echelon', or *kaséfet* 'safe (for keeping valuables)' from *késef* 'money'. (These three words again show how the normal native speaker is hard put to categorize nouns as verb-based, as verb-creating, or as "independent"; this is simply not normally part of his untutored knowledge of the language!)

Outside of patterns like those illustrated in (18), however, it would seem false to attempt to add the additional value of Meaning to the two values Root and Pattern. This is certainly the case with such very productive patterns as the segolate CéCeC or the form miCCaC, illustrated in (17) above. Nothing other than an exhaustive listing of all *miškal* patterns at present in use in the language will suffice to account for all the rest of the content words in Hebrew. But here, unlike in the standard listing of noun-patterns, the notion of *miškal* would subsume **phonologically** predictable alternants into a single morphological class – yielding no more than a

few dozen possible patterns in all (as against the 347 listed in Barkali 1964). Moreover, not only nouns but adjectives would be included in the same listing. For each item, the idiosyncratic information to be listed would include indication of whether the word is based on or the basis for an extant root or not (though, again, this would provide linguistic information over and above what one would expect to form part of the uninstructed native's knowledge of his language). And it would, moreover, provide some information of morphological "hierarchical" relationships, where these are relevant, as in:

(19)	(i)	a. yéled	'child'	(ii)	a. tvusa[12]	'defeat'
		b. yaldut	'childhood'		b. tvustan	'defeatist'
		c. yalduti	'childish'		c. tvustanut	'defeatism'
		d. yaldutiyut	'childishness'			

In general, however, in keeping with the nature of derivational morphology in natural languages, much idiosyncratic and exhaustive listing is required – with general, productive processes and predictable interrelations being accorded the consideration they merit, and with all the rest lying outside of the system as part of the speaker's accidental, real-life knowledge of how his language is used in fact.

11.5.2 The Meaning of Root + Pattern

Just as we advocate a detailed and exhaustive listing of all and only the *miškal* patterns available to the Hebrew speaker, so we propose a complete listing along a second parameter, too: that of all the semantic categories represented by these patterns – e.g., such notions as Agent, Instrument, Event, Place (as discussed in preceding sections of this chapter), Institution, Product, etc. (see Berman 1973, Chapter 15 for some further examples thereof). This parameter would be similar to the type of listing of subcategorization features suggested by Chomsky (1965, Chapter Two). It would include certain predictable redundancies – e.g., if a given noun is [+PLACE], it will not also be [+ACT], and one that is [+INSTRUMENT] will predictably be [+COMMON] and [-ANIMATE]; but there would be virtually nothing hierarchical in such a listing – unless the morphologically more complex forms noted in (19) above can in some way be formalized as semantically more complex, as well.

In this area, it would seem that little of language-specific interest will be noted – for such categories would, it seems to us, be quite generally characteristic of many languages, even if they are not strictly speaking universal. They would be characterized by a variety of different features

which would serve to uniquely distinguish any one subset of nouns from any other in terms of their semantic content and, presumably, in terms of the type of predications in which they can occur.

Finally, it seems that what is required specifically with respect to a root-based language like Hebrew is a matrix listing the following parameters: (i) all *miškal* patterns and (ii) all categories of nouns. Then any given word in the language would be entered as occurring in form (i) with meaning (ii) – accidental gaps being formally characterized as those cases where a given "root" (whether one which will also have verb entries or not is, as noted in the preceding section, irrelevant) does not have an entry for a particular slot in this matrix. The lexical prime would thus remain the "root" for nouns and adjectives as for verbs (as discussed in Sections 3.3.1 and 3.3.2); and verbs and nouns which are "related" in the sense noted at the outset of this chapter would be shown as such – by virtue of being entered under a common root.[13] Rule-bound, more general, and predictable or productive processes will be accounted for by redundancy rules – mainly those specifying the unmarked or salient meanings (i.e., "functions") of each *binyan* or *miškal.* For the rest, such idiosyncratic information as the specific sense of the Agent Noun *poel* '(blue-collar)laborer' or *oved* '(white-collar)worker' – compared with their homophonous verb-forms (see Section 11.4 above) – or the fact that *amar* 'say' is basic in *binyan* B-1, but *siper* 'tell' and *higid* 'say, tell' have their basic forms in B-3 and B-5, respectively, etc. must be listed individually for each given item. Ultimately the lexicon of Hebrew, as of other languages, remains a "listing" – a listing which combines three kinds of information: universal properties of language, such as the semantic classification of possible noun-types; language-specific properties of Hebrew (and other Semitic languages), such as the formation of lexical items by means of a large but finite set of consonantal roots combined with a restricted set of *binyan* patterns for verbs and a more open but still limited set of *miškal* patterns for other non-grammatical formatives; and idiosyncratic features of the particular dialect in consideration – e.g., which of all the possible lexical choices happen to be selected and which not, how a given combination of root plus pattern happens to be interpreted in actual usage, and so on.

NOTES

[1] Note that even borrowed nouns quite regularly form the basis of loan-verbs in Hebrew – the latter being incorporated into the regular morphological *binyan* patterns of the native verb-system (see Section 2.4.5 in connection with the phonological properties of such loan-words). Examples of such denominative verbs include:

NOUN	VERB
xrop '(a)snooze'	B-1 *xarap* 'sleep (heavily)'
filosof, filosófya	B-4 *hitpalsef* 'philosophize'
púlmus 'controversy'	B-4 *hitpalmes* 'argue'
kúter 'nagger'	B-3 *kiter* 'complain'
télefon	B-3 *tilpen* 'make a phone call'
fabrikácya	B-3 *fibrek* 'make up, invent'
blof, blófer	B-3 *bilef* 'bluff, lie'

[2] There are four main approaches to this problem, as reflected in Hebrew lexicography in the past 100 years or so (for references, see Schwarzwald 1975, 48-49): a) all the words of the language are viewed as derived from consonantal roots, the root being the basis for all lexical entries; b) most of the words of the language are viewed as root-derived, in the sense that all content words (verbs, nouns, adjectives) are so analysed, but not any others; c) only verbs are viewed as root-derived, the root being the basis for the lexical listing of verbs, the "word" being the basis for all other entries; and d) the "word" is the lexical prime, all items being entered as such and not according to roots at all.

[3] As is to be expected, learned or specialized words are taken mainly from Greek (e.g., *fonema, profesor, universita, psixologia, fizika*) or Latin (e.g., *universali, komyunizem, festival*). Everyday words often still in the category of slang include the following:

(i) from Arabic:	*χizbat*	'tall story'	*finǰan*	'coffeepot'
	buǰeras	'headache, mess-up'	*xasake*	'raft'
(ii) from English:	*bos*	'boss, chief'	*blófer*	'liar'
	mésting	'mess-tin'	*ful*	'total, utter'
	áfter	'time-off, after-duty'		
(iii) from Yiddish:	*bok*	'lout, fool'	*bútke*	'little hut, cubicle'
	núdnik	'nuisance, nag'	*yáxne*	'gossipy woman'
	lokš	'long-legged fellow, pay-slip'		

[4] The converse, too, is possible. Thus, the derived nominal *haxlata* 'deciding, decision' can occur as either a cognate or a non-cognate object, in such expressions as: *hexlit haxlata* 'decide (a)decision' compared with the equally but not necessarily more well formed *higia ləhaxlata* 'arrive at-(a)decision', *kava haxlata* 'fix (a)decision' and so forth. On the other hand, the noun *maskana* 'conclusion' as in *hesik maskana* 'conclude=come to (a)conclusion' differs from *haxlata* in that the latter functions as the V-Nom for the verb 'decide' (as in the Hebrew equivalent of "his deciding to go so suddenly upset us") but the verb *hesik* 'conclude' has a different V-Nom, *hasaka* (as in "your drawing conclusions in that hasty fashion won't lead us anywhere").

[5] Note that where English typically uses "all-purpose" verbs like *make, do, have, commit* in such contexts, Hebrew style prefers the use of a cognate object. Compare: *hexlit haxlata* 'make (a)decision', *naxat nexita* 'make (a)landing', *xalam xalom* 'have (a)dream', *yaac eca* 'give advice', *ganav gneva* 'commit (a)theft' *asa maase* 'do (a)deed' – *maase* here contrasting with the ordinary V-Nom for *asa*, which is *asiya* 'doing'. The reason is the very general trend in preferred Hebrew style for lexical repetition rather than deletion or substitution by some other lexical item. This has been noted with respect to the tendency for Hebrew to repeat a given word where English would require some kind of pronominal or other anaphora (Levanston 1976, 62-63), but is further clearly evidenced in the common occurrence of cognate objects, particularly in more formal or elevated style.

[6] In fact, a subset of *benoni* forms typically functions as Adjectives, too. Thus, for instance, the items as glossed in the right-hand column below meet all the syntactic and collocational requirements for membership in the category Adjective (as specified in Berman 1973, 206-210).

BINYAN		*BENONI* FORM	VERB	ADJECTIVE
B-1	*paal*	*bolet*	'stand out, protrude'	'conspicuous'
		dome	'resemble'	'similar'
B-2	*nifal*	*nifrad*	'take leave'	'separate, apart'
		nexpaz	'hasten, hurry'	'hasty, hurried'
B-3	*piel*	*məanyen*	'interest'	'interesting'
		məvader	'entertain'	'entertaining, amusing'
$B\text{-}3_{ps}$	*pual*	*məsudar*	'arranged'	'orderly'
		məfursam	'publicized'	'famous'
B-5	*hifil*	*macxik*	'amuse'	'funny'
		margiz	'annoy'	'annoying'
$B\text{-}5_{ps}$	*hofal*	*musmax*	'authorized'	'qualified, eligible'
		muxlat	'decided'	'definite, absolute'

This duality is in keeping with the nature of *benoni* verbs as being participial in essence – as discussed in Section 5.3 above, in which case they quite naturally can acquire modifier status (as illustrated in Section 5.3.5). Note that the situation with respect to *benoni* forms which are adjectival is analogous to those which are nominal: all *benoni* forms can function in a noun-like way (as described in Sections 5.2.3 to 5.2.5) and also in an adjective-like way (Section 5.3.5). However, only a

subset of all *benoni* forms – in fact, of all verbs in the language, since any verb can occur in the *benoni* – do in fact acquire regular adjective status, like the ones illustrated above. Similarly, as we try to show in this present section, only a certain subset of all *benoni* forms (i.e., of all verbs in the language) do in fact function as independent, fully-fledged "nouns."

[7] This claim would be true, for instance, of the items illustrated in example (7) of the text. On the other hand, there are certain intermediate cases, where a *benoni* form may lose some but not all of its verbal attributes when nominally interpreted. A case in point would be the following, where the nominal version in (b) manifests loss of the preposition required by the verbal form in (a). (The sign ¯ indicates a bound construct-case genitive construction.)

(i) Location

a. hem	yošvim	babáyit	b. hem	yošvey báyit
they	sit	at home	they	sitters home
				'they're stay-at-homes'

(ii) Direction:

a. hem	baim	lamsiba	b. hem	baey hamsiba
they	come	to the party	they	comers the-party
				'they're the party-comers'

(iii) Manner:

a. hem	holxim	barégel	b. hem	holxey régel
they	go	by foot	they	goers foot
				'they're pedestrians'

However, the examples in (b) are no exception to our general claim, since the *benoni* forms *yošev* 'sit', *ba* 'come' and *holex* 'go' do not have independent noun status in the current lexicon. They merely show some loss of structure in the form of preposition-deletion when used nominally, with their underlying complement NP as the adjunct of the genitive; thus, in addition to the examples in (b) above, one also gets *yošvey mearot* 'sitters-caves=cave-dwellers' or *baey havəʔida* 'comers-the conference=those attending the conference', but one does not find them as independent items, e.g., in **hayošvim azvu et hamakom* 'the-sitters left OM the-place' or **habaim hitaxzevu* 'the-comers were-disappointed'.

[8] Morphological form is certainly not a suitable criterion, being neither a necessary nor a sufficient condition for characterizing a given item as an Agent Noun in Hebrew. Thus,

a) There are numerous agent nouns which do not take the form of *benoni* verbs, e.g., the verb-based *ganav* 'thief', *katav* 'reporter', or *saxkan* 'actor', *karyan* 'announcer', the denominative *xašmelay* 'electrician', *malax* 'sailor', and loan-words such as *mehandes* 'engineer', *adrixal* 'architect';

b) There are certain words which have the surface form of a *benoni* verb and which function as Agent Nouns in the language without having any related verb currently in use in the language; such cases include denominative agent nouns like *šoer* 'goalkeeper' from *šáar* 'goal, gate' or *moxes* 'customs-official' from

méxes 'customs', nouns of unclear origin such as *oyev* 'enemy' or *yogev* 'farmer', as well as such cases as the following:

(i) a. habogrim kiblu təudot
the graduates received certificates

b. *harbe talmidim bogrim (mišam) kol šana
many students graduate (from there) each year

(ii) a. hu oved kəšoter bəezorénu
he works as(a)policeman in our area

b. *hu šoter (et haezor) kan kol láyla
he polices (OM the area) here every night

(iii) a. hem hasoxnim šelánu
they(are) the agents of us = 'our agents'

b. *hem soxnim biməhemanut
they agent reliably

Such occurrences would have to be handled in the lexicon as idiosyncratic forms, being entered, for instance, as follows:

(iv) { $ROOT_x$, $BINYAN_y$, [-VERB], [+AGENT NOUN] }

(Note, incidentally, that such morphological anomalies are again analogous with *benoni* forms functioning as adjectives (see fn. 6 above). Thus, there are adjective which take the form of *benoni* verbs without having any corresponding verb currently in use in the language, e.g.: B-1 *pore* 'fruitful', *šone* 'different'; B-2 *nifla* 'wonderful', *navon* 'wise'; B-3 *məlavev* 'heartening', *məalef* 'instructive'; $B\text{-}3_{ps}$ *məyutar* 'superfluous', *mənumas* 'polite', etc.)

c) The correspondence of *benoni* verb/agent noun is further violated morphologically in a way analogous to that discussed with respect to derived nominal forms (Section 10.3): a verb is used in one *binyan* pattern whereas the corresponding agent noun is in another, e.g.:

(v) Verb in *benoni*		Agent Noun	
B-3 *məyaec*	'advise'	B-1 *yoec*	'consultant'
mədaber	'speak'	*dover*	'spokesman'
məvarer	'investigate'	*borer*	'arbiter'
B-1 *ohev*	'love'	B-3 *məahev*	'lover'
B-4 *mitaréax*	'visit with'	B-1 *oréax*	'guest'

Again, this kind of situation would be noted in the lexicon, along the following lines:

(vi) [$ROOT_x$] – {[V, $BINYAN_a$], [AGENT-NOUN, $BINYAN_b$]}

[9] According to the lexicalist view, the relationship between a given verb and its associated nominals – in this case, the class of Agent Nouns – is so irregular and unpredictable that each item, verb and noun, needs to be entered separately in the lexicon with appropriate indication of any features they happen to share morphologically and semantically. This view differs from that of the "transformationalists"

who, as noted at the outset of this section, would aim to capture the generality of verb/agent noun relations by deriving the latter transformationally from a base-structure containing the former. For references to the literature representing these two views, see fn. 2 to Chapter Eight.

[10] In Hebrew, however, the only possible instance of morphological identity between items belonging to both major lexical categories, V and N, is in the *benoni* – due to the peculiar properties of the Hebrew *binyan* system of morphological patterns noted in Section 3.3.1. Compare with this constraint English verb/noun homonyms such as: *coach, cook, dance, tail, paper, whisper, dream, report,* etc.

[11] Current research by Dorit Ravid (Tel-Aviv University) indicates that schoolchildren who have not yet had any formal contact with the notion of *miškal* patterns in the classroom as well as linguistically naive adults (engineers) have a clear perception of nouns and verbs as being separable into the two elements of Root + Pattern (even where the root is not transparent, in cases where one or more of its consonants is "defective"; thus, for instance, [masa] 'trip, hike, may be perceived as having the root *m–s–? rather than the historically underlying n–s–' (cf. the verb *nasa* 'travel' and the noun *nəsia* 'journey') just as [héca] 'supply' may be perceived as based on *h–c–' rather than on the historically correct y–c–', etc.). Similarly, work on the acquisiton of the *binyan* system in Hebrew-speaking children of preschool and early school age being done by Ellen Adiv (also a graduate student at Tel-Aviv) indicates that children quite easily perceive the meaning of non-existent verbs when these are based on nouns with which they are familiar and are conjugated according to the familiar *binyan* pattern. (Both research reports by personal communication.)

[12] The noun *tvusa* provides a clear illustration of the problems involved in claiming that the root is the psychological "prime" for Hebrew speakers; it is an example of a word whose root is not "transparent" due to its having a weak or defective consonant – in this case a medial glide /w/ which is pronounced as [v] in virtually all varieties of Modern Hebrew and whose alternation with the vowel /u/ is thus phonetically unexpected. The word in question – *tvusa* 'defeat' – is a noun formed on the pattern $\{tC_1uC_3a\}$, very generally associated with verbs with a root in the form of C–w–C. Compare, for instance:

	ROOT	VERB		NOUN	
(i) B-1	q–w–m	*kam*	'get up'	*tkuma*	'uprising'
	n–w–'	*na*	'move'	*tnua*	'movement'
	ħ–w–š	*xaš*	'sense'	*txuša*	'sensation'
(ii) B-5	š–w–b	*hešiv*	'reply'	*tšuva*	'reply'
	g–w–b	*hegiv*	'react'	*tguva*	'reaction'
	b–w–s	*hevis*	'defeat'	*tvusa*	'defeat'

The connection between the noun *tvusa* and its historical root b–w–s, today manifested in the verb-system almost exclusively in the word *hevis* and its inflectional variants (e.g., *hevásti* 'I defeated' or *ləhavis* 'to defeat') and in the highly literary *boses* 'trample', is probably not at all obvious or "transparent" to the native

speaker. Yet, in keeping with what we claim in Section 11.5.1, even if the untutored speaker does not establish the historically correct link, he will view *tvusa* as morphologically related to a verbal root – possibly hypothetical *h–b–s or even *h–v–s. (For further explanation of the phonological basis to such intuitions, see Sections 2.2.6, 2.2.7 and 2.3.1 to 2.3.3 as well as Section 3.2)

[13] Implicit in this view is the claim that the root is meaningful in and òf itself – surely a very important property of Hebrew and other Semitic languages. Investigations currently being conducted by Ravid (see fn. 11 above) indicate that native speakers invariably attach some quite specific semantic content to any of the phonologically abstract elements which constitute the set of consonantal roots of Modern Hebrew. What we are claiming, then, is that given any root functioning in the current lexicon of the language – irrespective of whether it can be traced back to verbs in classical Biblical usage or whether it is based on a recent denominative, borrowed or other form of innovation – the root as such has associated with it certain inherent semantic features of its own.

12 SOME CONCLUSIONS

Two kinds of brief concluding remarks are offered in this chapter: Firstly, we suggest some general properties of Modern Hebrew structure which seem to have emerged as a result of our investigation and findings – as set down in this present volume. Next, we suggest further lines of research and study which seem of particular interest with regard to Modern Hebrew.

12.1 SOME GENERAL PROPERTIES OF MODERN HEBREW

This study has deliberately focused on synchrony – partly as an attempt to depart from the historicist-normativist orientation of many Hebrew studies, as noted in Chapter One. However, it is evident that where contemporary usage diverges most significantly from the requirements of purism it often does so at the expense of earlier, more peculiarly Semitic properties and features. Thus, for instance, in the area of phonology we find an interesting combination of factors: at the abstract, systematic level of phonological patterning, traditional distinctions remain functional – while being neutralized at the phonetic level of actional pronunciation. Thus, for instance, the class of "low gutturals" discussed in Section 2.3.1 are no longer pronounced at all or merely as a glottal stop (in the case of "alef" and "ayin" and even "he" – alternating with [h]) with the original pharyngeal "chet" generally being pronounced as velar [x] in Modern Hebrew. But note such forms as the following, where the paradigmatic CCiCa is broken by (C)aCiCa, just in case the initial root consonant is an underlying "guttural."

(1)	(i) Paradigmatic		(ii) Initial guttural		
	tfira	'sewing'	(alef) *afiya*		'baking'
	švira	'breaking'	(ayin) *asiya*		'doing'
	sxira	'renting'	(he) *(h)alixa*		'going'
	blima	'checking'	(chet) *xatima*		'signing'

Here, the forms in (ii) still manifest the influence of an underlying, typically Semitic guttural – in the form of the obligatorily inserted low vowel /a/, even though these gutturals are no longer pronounced as such.

The set of forms in (1-i) show another analogous phenomenon. Traditionally, Hebrew was analyzed as having no initial (or other) consonant clusters – though this rule is no longer observed in normal usage, as shown by such forms as *stima* 'blocking', *tnua* 'movement', *kramim* 'vineyards', *psik* 'comma', etc.[1] However, the first three forms of (1-i) all involve spirantized versions of the second consonant, thus, *tfira* vs. **tpira* or **təpira*; *švira* vs. **šbira*; *sxira* vs. **skira*. As noted in the earlier discussion of spirant/stop alternation in Hebrew (Section 2.2.7), this implies that these words are viewed as having a vowel between the two initial consonants – thus accounting for the spirant version of the second consonant rather than its stop counterpart. Again, the phonological "occurrence" of a vowel here is manifested on the surface by the spirantization of the following consonant – even though in phonetic terms no such vowel is realized in actual usage (with the exception of highly normative speech, such as that required of radio announcers – as enunciated in Bendavid and Shay 1974, 30-32).

Thus, though pronunciation may diverge considerably from forms assumed to have existed at an earlier stage of the language – there are instances where certain underlying, typically Semitic processes still have an effect in contemporary speech.

In the area of syntax, some divergences from the more Semitic usage of Classical (Biblical) Hebrew occurred prior to the revival of Modern Hebrew, as noted in the first chapter (see, especially, the references in fn. 1 to Chapter One). These include: the development of the use of the *benoni* participial as a present-tense form and a concurrent evolution of a three-way system of tenses (see Sections 5.1 and 5.6); the introduction of the derived nominal *šem pəula* form to serve the purpose of both abstract action noun and gerund (Sections 10.1.1 and 10.6); and the use of the free or "separate" form of genitive constructions with *šel* 'of' (Section 7.1). Other "neutralizations" which are noted in the preceding chapters

and which are worth reiterating here include: the increasing use of present-tense copula suppletives in the form of personal and demonstrative pronouns in the traditional "nominal sentence" – possibly under the influence of contact with *habere* languages like Yiddish and English (Sections 6.2 and 6.3); the widespread use of the unmarked negative formative *lo* at the expense of the existential negator *eyn* in present-tense contexts (Sections 5.2.2 and 6.5); the tendency to use the same formative *še-* 'that' throughout, both as the only subordinating complementizer (and a consequent disuse of the corresponding *kiy*) and as a relative marker (and the consequent disuse of earlier *ašer* and *ha-*, as noted in Section 5.3.4).

Another general property of Modern Hebrew is that in various instances, the inflected or bound form has fallen into disuse in everyday speech, colloquial usage preferring the more analytic or "free" form.[2] Thus, as noted above, in all cases of *smixut* genitives, except for lexically fixed noun compounds (see Sections 7.1 and 7.2 above), the Hebrew of today will prefer the free form with *šel* 'of' – both where the adjunct is a full noun phrase (yielding *haŠulxan šel hamore* 'the-table of the-teacher' in preference to the bound form *Šulxan hamore* 'table(-of) the-teacher') and where it is an enclitically attached pronominal (*haŠulxan šelo* 'the-table of-him' being much commoner than the synonymous *Šulxano* 'table-his' – both meaning 'his table'). A similar "opening up" of the syntax is found with respect to the accusative-case pronominals which can attach to any form of a verb which governs a direct object (e.g., *lirota* 'to-see-her', *pəgastiv* 'I-met-him', *nəsadram* 'we'll-fix-them' (see Section 3.2.3 and Section 9.1.3, especially fn. 8 to Chapter Nine). Today, these are used as enclitics only in very formal style; elsewhere, the more analytic form with a separate pronominal is found, thus: *lirot ota* 'to-see her', *pagášti oto* 'I-met him', *nəsader otam* 'we'll-fix them'.

Possibly related to this preference for separate, non-enclitic markers of syntactic relations is the loss of what we have called the "adverbial gerund" (Section 9.2.1) and the preference for finite clauses subordinated by *še-* 'that' over the non-tense-marked participial type of sentence-modifying adverbials. (That is, colloquial style will prefer the equivalent of 'after (that) Dan arrived' to 'after Dan's arriving' or 'when (that) they saw us' to 'on their seeing us'.) Possibly the retention of the pronominal copy in relative clauses, even where the deleted noun phrase is a "direct object" governed by *et* and hence deletable (see Section 4.3), is related to this preference for keeping as many overt grammatical cues as possible in everyday style. That is, it seems that *habaxur še raíti oto* 'the-boy that

I-saw him' is more likely in colloquial usage than is the normative *habaxur še raíti.*

With respect to the lexicon, Modern Hebrew has taken full advantage of its root-based morphological structure (see Sections 3.0 and 3.4 particularly) to evolve a rich and evergrowing vocabulary – very largely based on classical roots found in Biblical Hebrew and used currently either (i) in the same form but with a different meaning than at the earlier stage or, more typically, (ii) in conjunction with native morphological patterns – both *binyan* and *miškal*, as discussed in Section 3.3 – to create new words on traditional lines. Not surprisingly, then, the aspect of the language which seems to have been least resistant to change is its morphology – both inflectional and derivational, as discussed in Chapter Three. Moreover, it seems that the lexicon, in general, is becoming increasingly "semiticized" rather than the converse. Thus, a mere decade or two ago, words like the following were used by all Hebrew speakers alike (to the distaste of purists, naturally): *princip* 'principle', *kriteryon, sofistikacya, frustracya, diagnoza.* Today, such words are found mainly either with non-natives or with members of the older generation; the younger native speakers will have incorporated the (relatively recently coined) Hebraic equivalents of these notions – based on existing roots combined with existing patterns to form new words – and will probably not even recognize their European counterparts. This does not mean that Hebrew lacks loan-words (see, for instance, Section 2.4.5 in this connection), but Hebraization of the lexicon is a definite fact – due no less, probably even more, to the natural nativism of third or fourth-generation Hebrew speakers, than to the puristic urgings of the Hebrew Language Academy (mentioned in Chapter One).

12.2 FURTHER AREAS OF INVESTIGATION

As noted at the outset, this book makes no attempt at an exhaustive coverage of Hebrew structure – not even in the field of syntax, to which most of the preceding chapters are devoted. Two syntactic topics touched on only marginally in this study which have received quite considerable attention in the transformationally-oriented literature are Relativization (as in Ornan 1964, Hayon 1969, Grosu 1975b) and Complementation (as in Rubinstein 1971, Sadka 1974, Malisdorf 1975). Other major areas of Hebrew syntax which seem in need of thoroughgoing investigation include: Determiners – with particular reference to Quantifiers, on the one hand, and to such notions as Definiteness and Genericity on the other, and also

Negation – particularly from the point of view of alternations such as the following:

(2) (i) a. pagášti šam harbe anašim
I met there many people

b. lo pagášti šam af exad
not I met there even one
'I didn't meet anyone there'

(ii) a. hu asa et hakol
he did OM the-all = 'everything'

b. hu lo asa šum davar
he not did anything
'he didn't do anything'

(iii) a. hem yelxu ləkol† makom
they will go (to)all=any place

b. hem lo yelxu ləšum makom
they not will go (to)any place= 'anywhere'

†Normatively this should be pronounced [ləxol] – the stop *k* spirantizing after a vowel, but the common usage with *k* is kept here to show the same form *kol* all through.

We would also like to see a detailed investigation of Pronominalization in Hebrew – from the point of view of the universality of such notions as the principles of "command" and "precedence" (Langacker 1969) and of "crossing-over" (Postal 1971), as well as with reference to the entire process of Reflexivization – never to date properly studied for Hebrew, as far as we know. And another broad area of considerable interest and which as yet requires deeper investigation is Word Order in Hebrew. (See, for instance, our comments in fn. 16 to Chapter 6 and in fn. 10 to Chapter 9 with respect to constraints on ordering of pronouns; see Sections 5.2.6 and 9.1.2 of this text on Subject-Verb inversion; or see Chayen & Dror 1976, Chapter Four for a brief treatment of topicalizing reorderings.) Two further areas are Conjoining and Sentence-Adverbials – the neglect of which has been somewhat compensated for in Chayen & Dror 1976, Chapters Seven and Eight, respectively.

Another more specific set of syntactic constructions which seems of particular interest in the evolution of Modern Hebrew and which has received no detailed treatment to date is the set of so-called "impersonal sentences" – including such expressions as the following, where a language like English might use a passive construction:

(3) a. omrim še hu gaon
say (Masc,Pl) that he genius
'they say he's a genius'
'it is said that he's a genius'

b. hodíu kvar et hatocaot
announced (Masc,Pl) already OM the results
'the results have been announced already'

c. yikxu oto basof
will take (Masc,Pl) him in the end
'he'll be taken eventually'

Such constructions have already been discussed briefly from the point of view of the non-referentiality of the implied subject pronoun *hem* 'they' (Berman 1973, 258-262), but they need to be re-examined as part of a far more general set of processes governing possible or obligatory non-specification of Agent NP's, including such (perhaps extraposed) constructions as:

(4) a. naim ladaber ito
(it is) nice talking to him

b. xašuv še dibárta ito
(it was) important that you spoke to him

Also, further examination is needed into the constraints on their transformability: How infinitival and *še-* complements alternate, whether these can be in subject position, etc.

Another area of Hebrew sentence-construction which merits investigation is one concerned more particularly with the general rhetorical style or "spirit" of the language – a point which is hard to pin down in other than contrastive terms. We refer to the very general tendency in Hebrew for all levels of style to prefer lexical repetition to deletion or even pronominalization – a point noted earlier in connection with the prevalence of "cognate objects" (Section 11.2). This point is made by Levanston through comparison of Hebrew translations with their English original – an exercise which leads him to conclude, *inter alia*, that "English makes use of grammatical anaphora, whereas Hebrew prefers lexical repetition" (1976, 62). The same conclusion will be reached when considering the dubiousness of such sentences as the following – all taken from papers written in English by Hebrew-speaking university students majoring in linguistics:

(5) a. Hebrew generic nouns can either use the definite article or not use it.

b. There are a few cases where the *'s* genitive occurs with inanimate nouns and the *of* genitive occurs with inanimate nouns.

c. The question is which features are universal features of a class of nouns and which are language-specific features.

d. Thus the word X is possible, though the word Y is not possible.

e. In Hebrew many abstract nouns can be pluralized which in English cannot be pluralized.

Without any further investigation, i.e., on a rather impressionistic basis, it seems that the preferred style in Hebrew compared with English would be ordered as follows (when the same lexical material is being referred to at some deeper level of meaning):

(6) Hebrew: repeat – or pronominalize – try not to delete
English: delete – or pronominalize – try not to repeat

It is also our impression that this property of Hebrew rhetorical style (which it seems to share with Arabic, at least) can also account for the quite general lack of gapping (see Ross 1970) at all levels of Hebrew usage – even though, when forced, Hebrew speakers may occasionally agree that a gapped structure is feasible in their language.

An area of general linguistic interest worth investigating and which the structure of Hebrew seems peculiarly suited to is the following: the effect of what we have termed "lexical incorporation" of semantic-syntactic notions such as causitivity, reflexiveness, reciprocality, etc. (see Berman 1975c), elsewhere characterized as the issue of "lexical unity" compared with "lexical decomposition" (Partee 1974, 313). We refer to such alternations as the following, where, in the (a) member of each pair, a given notion is "incorporated" by means of a change of *binyan* pattern as compared with the lexically "decomposed" version in (b), where the same verb-root is used in a more basis or less composite verb-pattern or *binyan* (indicated by B-n):

(7) (i) a. hainyan hicxik {c–ħ–q + B-5} oti
the affair amused me

b. hainyan garam li licxok {c–ħ–q + B-1}
the affair caused (to)me to laugh

(ii) a. habaxur hitraxec {r–ħ–c + B-4}
the boy washed

b. habaxur raxac {r–ħ–c + B-1} et acmo
the boy washed OM himself

(iii) a. hi hexvíra {ħ–w–r + B-5}
she paled

b. hi naasta xivéret {ħ–w–r + ADJ}
she became pale

(iv) a. dan vərina mitkatvim {k–t–b + B-4}
Dan and Rina write=correspond

b. dan vərina kotvim {k–t–b + B-1} ze laze
Dan and Rina write to each other

Here, some detailed taxonomic description of the facts is first necessary to indicate which verbs can use a unified or incorporated form to manifest a notion such as (i) causativity, (ii) reflexivity, (iii) inchoativity, (iv) reciprocality, and which cannot. Given, however, that both possibilities are technically available to the Hebrew speaker, it remains to be seen what semantic and/or stylistic effect is gained by the use of the incorporated form rather than by some periphrastic lexical "decomposition" as in the (b) examples above. This seems to us an area well worth investigating in relation to Hebrew – with possibly more general, non-language specific implications as well.

With respect to lexical properties, we have seen that Hebrew, like any other natural language, manifests a large number of fixed, idiomatic usages which cannot be characterized as rule-bound, but are individual items stored in the speaker's memory (e.g., Noun Compounds as noted in Section 7.2.1 or Agent Nouns as noted in Section 11.3 above). We also showed that in morphophonological terms, any item under the node V can be uniquely represented as a combination of { ROOT + *BINYAN* PATTERN }. In general, however, we view the most interesting question in Hebrew lexicology as being largely unresolved: the relationship of the elements of Root, on the one hand, and Morphological Pattern – *binyan* or *miškal* – on the other. These are matters we consider in some detail in Sections 3.3 and 3.4 and again in Sections 11.0 and 11.5, without coming to any satisfactory resolution of the issue. It seems to us that general linguistic theory needs to be brought to bear on this question in conjunction with two other sets of criteria: painstaking listing and classifying of what the state of the Hebrew lexicon is at present – that is, taxonomic description

of the type not generally available with respect to contemporary Hebrew lexical usage, taking special account of recent coinages (as done, for instance, by Sivan 1963) and loan-words (see Section 2.4.5 and Section 11.1 above); coupled with careful psycholinguistic investigations of native speakers' perceptions of the notions of root, *binyan* and *miškal*.

This leads us back to a point briefly mentioned in the introductory first chapter of this volume: the need for straightforward descriptive data concerning actual everyday usage (for example, the facts of whether colloquial usage ever manifests *ha-* rather than *še-* as a relative marker, as touched on in Section 5.2.3 above, or whether *haim* is in fact really used in asking *yes/no*-questions in Hebrew along with a change in intonation – as claimed by Chayen & Dror (1976, 145) – or whether the derived action nominal and the infinitive actually alternate in syntactic distributional terms of the kind suggested by Ben-Asher 1976). Such investigations of usage – through the well-known corpus-oriented methods of data collecting by tape-recordings, investigations of newspapers, etc. – must, however, be supplemented by sophisticated psycholinguistic tests of how native speakers view these aspects of their language: for instance, whether twelve-year olds, prior to the formal study of the topic in their Hebrew classes, have a sense of words being constructed out of roots according to set patterns, how they envisage these patterns and how they derive these roots, whether a root in itself has any independent semantic content for them, etc. Obviously, no lexicon can be constructed solely on the basis of such intuitions. It must, as noted, take into account universals of linguistic theory and metatheory as well as language-specific facts of usage, distribution, and so on. But it seems that any further argumentation on the topic – as suggested in Berman 1975a and 1975c and in the sections of this book concerned with the lexicon (particularly, Chapters Three and Eleven) and touched upon by Schwarzwald 1975 – must take into account careful psycholinguistic evidence, too. Besides, in view of the usage-norm controversies still raging with respect to Israeli Hebrew – as noted in Chapter One – it seems that extensive psycholinguistic investigation of speakers' naive reactions to different kinds of usage is urgently needed, as a counterbalance to puristic dogmas and speakers' uncertainties alike.

We would like to suggest that another possible way of clearing away the cobwebs from the usage-norm controversies so common among Hebrew-language teachers, writers, and academicians, and so bothersome to schoolchildren and linguists, would be to undertake detailed and careful studies in the area of **comparative syntax**, in the following sense. It is very

often – and probably quite rightly – claimed that Hebrew syntax has lost much of its native form and flavor due to foreign influences, a circumstance that is natural enough in an immigrant society and upsetting mainly to traditionalist purists. But – as far as we know – no careful research has been undertaken in which usages are compared from the European writers of Hebrew in the period of the "enlightenment" in 18th and particularly 19th century Europe, from the earlier newspaper and other nonfiction writings of the early years of the revival of Hebrew in Palestine, with the usage current today, on the one hand, and at earlier stages of Hebrew as a living language, on the other. Comparative documentation is available in areas of phonology, morphology, and the lexicon (see, for instance, the detailed bibliography provided by Harris 1971, 102-105), but there is very little that seems to have been done on syntax (apart from the rather cursory remarks offered in Harris 1971, 57-75). Areas that seem worth investigating from this historico-comparative point of view – going from the earliest years of the revival of Hebrew in Europe to this very day in Israeli usage – would include: copula constructions, relative clauses, nominalizations of various kinds, word-order, pronominalization, genitives, etc. And ideally, such research would compare various stages in the artificially accelerated pattern of change in Hebrew syntax with the various source-languages with which it has come in contact, on the one hand (in Europe, primarily Yiddish, German, Russian and, more recently, in Palestine and then in Israel – English), and with other ever-changing living Semitic languages, on the other (most particularly, Arabic).

12.3 POSTSCRIPT

The subject of this book has been Modern Hebrew – a language which, linguistically, is a language like any other and hence of intrinsic interest to the linguist or student of linguistics and one which, sociologically and historically, has certain rather unique properties which seem well worth recording. It is hoped that others will be encouraged to extend and deepen the scope of our investigation – possibly along the lines suggested in the preceding section of this chapter. And we would be particularly gratified if such works were to have an effect on those involved in the teaching of Hebrew in schools – so that they give due cognisance to what is unique about Hebrew and what it shares with all other languages; and so that they may endeavor to provide a motivated interlinking between the language which they teach, on the one hand, and the language which their students speak (as a native tongue), on the other. For here is the paradox:

Modern Hebrew has developed and grown and evolved into a living, vital tongue like all other natural languages currently in use; but Modern Hebrew studies have not kept apace with this development. Perhaps if things change in the teaching of Hebrew to those who already know it, things will change in the more specialized study of the language, too. It seems to us that the answer to this paradox lies in the schools no less than with the scholars.

NOTES

[1] Where clustering is disallowed, it is for reasons of phonetic similarity of the two adjacent consonants, such as if they are both sibilant or otherwise homorganic or homotopic.

[2] This property may be due to foreign influence, but in the absence of deeper research into the question – as noted in Section 12.2 below – we hesitate to make stronger claims about what is or is not due to contact with other – mainly European – languages.

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